

## 2019 SMALL GRANT IN AID OF RESEARCH – ANNUAL SUMMARY REPORT

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### RESEARCH QUESTIONS AND OBJECTIVES

The general objective of this research is to obtain a continuous photographic record of a year covering the reproductive and post-reproductive period of *O. byronia* in Metalqui rookery (Chiloé Archipelago) in southern Chile, in order to compare and describe biological and reproductive patterns among two colonies with different population abundance, density, type of substrate and slope.

### Results Fieldwork to Metalqui Island rookery

- 1) Trip and arriving to Metalqui Island rookery:

On April 19, 2019, at 09:00hrs the biologists Doris Oliva and René Durán traveled ninety minutes by artisanal fishing boat to arrive to Metalqui Island rookery (42°S), Chiloé Archipelago, Southern Chile.





- 2) Installation of 4 camera traps: The cameras will be programmed to shot every 1 hour from 6 to 21:00hrs (during daylight) during 1 year (April 2020).







Because the trap cameras installed in Metalqui Island will be removed in April of 2020, we will have the results available within the next year. For this reason, we want to show you the preliminary results we obtained in Punta Chaiguaco rookery, where we also carried out a study of the reproductive biology of *Otaria byronia*.

These preliminary results were presented in the XXXIX Congress Ciencias del Mar, organized by the Marine Sciences Society of Chile. It was carried out between May 27 - 31 in the city of Iquique, Tarapacá region, Northern Chile.

## Summary

**“First report of the reproductive dynamic of South American sea lion, (*Otaria byronia*) in the colony Punta Chaiguaco, Chiloé Archipelago, southeastern Pacific”**

**“Primer reporte de la dinámica reproductiva del Lobo Marino Sudamericano (*Otaria byronia*), en la lobera Punta Chaiguaco, Archipiélago de Chiloé, Pacífico Suroriental”**

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The South American sea lion has a wide distribution in South America, presenting latitudinal asynchrony, and between the Pacific and Atlantic coast in its reproductive events. In Chile, it is reported in the northern zone (20°S) and central (38°S). In order to evaluate the existence of reproductive asynchrony, site preference, dynamics and population structure in Punta Chaiguaco (43°S), trap cameras were installed in three sites: Low Platform (LP), High Ditch (HD) and High Platform (HP), programmed to shot every hour during the day, from December 2016 to March 2017. Weekly censuses were conducted, determining its population structure (adult males, subadult males, females, juveniles and pups).

The abundance of males increased from January 6 to reach  $21 \pm 0.58$  between February 3-11, and females from January 11, reaching  $501 \pm 0.72$  on February 3. The highest proportion of pups were born between January 16 and 26, presenting asynchrony with the northern Chile (20°S). The preferred site to give birth was LP, showing a significantly higher abundance with respect to HD and HP ( $X^2 < 0.01$ ). The structure and dynamics of SASL between HD and HP was similar, but differed from LP. From January 26 the abundances of the females in the HD and HP presented three maxima,  $171 \pm 2$  and  $207.7 \pm 7$  on February 3,  $152.3 \pm 3$  and  $230 \pm 7$  on March 1; and  $153 \pm 4$  and  $202.7 \pm 4$  on March 22, respectively. The proportion of juveniles is low ( $32 \pm 0$ ), being located in the HD and HP.

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