

ORIGIN OF ISLAND VECTORS HELPS TO UNDERSTAND THE TRYPANOSOMA CRUZI CYCLE IN ISLANDS OF CHILE

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In Latin America, Chagas disease is one of the most important zoonoses mediated by vectors. The etiological agent is the flagellated protozoan *Trypanosoma cruzi*, transmitted mainly by hematophagous insects of the subfamily Triatominae. *T. cruzi* alternates between triatomines and several mammalian host species; meantime birds and reptiles are refractory to infection. Triatomines of the *Mepraia* genus are endemic of Chile and play an important role in *T. cruzi* transmission in the wild cycle; they are potential vectors for humans. Populations of *Mepraia* have been reported inhabiting in islands of the north of Chile. In these areas infected *T. cruzi* specimens have been detected. These insects feed mainly on seabirds and reptiles if birds and reptiles are refractory to infection, what is the origin of the infected

T. cruzi vectors in island areas? Suggested hypotheses are: i) The presence of *Mepraia* in insular areas are explained through passive dispersion by marine birds; ii) The infected *Mepraia* specimens are originated from ancestral habitats that were separated by vicariance. To clarify the origin of the island vectors, islands and continental specimens were captured and mitochondrial DNA genes were amplified by PCR. Nucleotide sequences were used to estimate phylogeny and dates of divergence between insular and continental populations. Results show both divergent and shared haplotypes between islands and continent. Dates of divergence are consistent with sea level changes during the Pleistocene. Results suggest that both hypotheses are not exclusive and that the origin of island vectors can be explained by dispersion and vicariance.

Biography

Ricardo Campos Soto has been Graduated from University of Chile as Medical Veterinarian, Later on he obtained his Doctor grade from University of Chile in Agricultural and Veterinary Sciences. He started a postdoctoral position at the Pontifical Catholic University of Valparaiso where he has continued his research until today.

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