

Project Update: December 2019

In constant search to improve the efficiency of economic resources, economic support has been obtained from various sources that have financed some items contemplated in the original budget, so I still have part of the financing granted by the Rufford Foundation.

So far, three data captures have been made in the field, obtaining hundreds of records. Thanks to the support of the workers of the ecological park "El Tecuan", of the Secretary of Natural Resources and Environment of the State of Durango, foundations such as RUFFORD and IDEAWILD, as well as the Integralidad Gamma project, the National Council of Science and Technology and the Instituto de Ecología, this project is progressing according to plan.

In the Second Ibero-American Congress of Biodiversity and Road Infrastructure, held in the city of Medellín, Colombia, from November 28 to 30, 2019; some progress of the project was presented (Figure 1). With title "Roads and other human activities as fear generating models for vertebrate fauna", with which an index of human use is proposed to improve the accuracy of studies of road ecology. Here, we begin with the connection with specialists in this discipline together with Dr. Víctor Colino, who also attended the event.

A research stay was agreed with Dr. Víctor Colino, in Salamanca, Spain. In this, I will receive instructions on how to obtain variables with which I will develop the proposed mathematical model. As well as the generation of noise propagation models with which the veracity of a part of the model will be evaluated.

Three data captures have been taken in the field through low-speed vehicle journeys on the road section to study (Figure 2. Field assistant and undergraduate student in biology removing traces of wildlife run over during road trips. and Figure 3. Remains of horned lizard (*Phrynosoma cornutum*), considered of minor concern by the IUCN Red List, run over the Durango-Mazatlan highway.) during October and November 2018; and March, May, June, October and November 2019, transects on foot and using trap cameras (Figure 13. twin spot rattlesnake (*Crotalus pricei*) subject to special protection by NOM-059-SEMARNAT-2010, found in the transects on foot. to Figure 12. collared peccary (*Pecari tajacu*), photograph taken in camera trap.) on selected sites in the study area (Figure 14. Map of the study area). These cameras remain activated for 15 days, during October and November 2018 and March, May, June, October and November 2019, periods during which the transects were also made on foot. Following this methodology, a total of 3446 records have been obtained so far, of which, 260 individuals of wildlife run over in an estimated period of 4 weeks, 2516 records of habitat use by wildlife through walking transects and 670 registered individuals in photography or video using trap cameras.

The records include the presence of emblematic and endangered species such as the horned lizard (*Phrynosoma cornutum*, Figure 3. Remains of horned lizard (*Phrynosoma cornutum*), considered of minor concern by the IUCN Red List, run over the Durango-Mazatlan highway.), skunk (*Mephitis macroura*, Figure 5. Southern skunk (*Mephitis macroura*), photo taken in a trap camera.), bobcat (*Lynx rufus*, Figure 6. Bobcat (*Lynx rufus*), picture taken in camera trap.), nine-banded armadillo (*Dasypus novemcinctus*, Figure 7. Nine-banded armadillo (*Dasypus novemcinctus*), photo

taken in a trap camera.), northern turkey (*Meleagris gallopavo*, Figure 8. Wild turkey (*Meleagris gallopavo*), photo taken in camera trap), coyote (*Canis latrans*, Figure 9. Coyote (*Canis latrans*), picture taken in camera trap.), white-tailed deer (*Odocoileus virginianus*, Figure 10. White-tailed deer (*Odocoileus virginianus*), photo taken in camera trap.), collar peccary (*Pecari tajacu*, Figure 12. Collared peccary (*Pecari tajacu*), photograph taken in camera trap.), among others.



Figure 1. Presentation of the first results in the Second Ibero-American Congress of Biodiversity and Road Infrastructure, held in the city of Medellín, Colombia.



Figure 2. Field assistant and undergraduate student in Biology removing traces of wildlife run over during road trips. Figure 3. Remains of horned lizard (*Phrynosoma cornutum*), considered of minor concern by the IUCN Red List, run over the Durango-Mazatlan highway.



Figure 5. Southern Skunk (*Mephitis macroura*), photo taken in a trap camera. Figure 6. Bobcat (*Linx rufus*), picture taken in camera trap.



Figure 7. Nine-banded armadillo (*Dasypus novemcinctus*), photo taken in a trap camera. Figure 8. Wild turkey (*Meleagris gallopavo*), photo taken in camera trap.



Figure 9. Coyote (*Canis latrans*), picture taken in camera trap. Figure 10. White-tailed deer (*Odocoileus virginianus*), photo taken in camera trap.



Figure 11. White-tailed deer (*Odocoileus virginianus*), photo taken in camera trap. Figure 12. Collared peccary (*Pecari tajacu*), photograph taken in camera trap.



Figure 13. Twin Spot Rattlesnake (*Crotalus pricei*) subject to special protection by NOM-059-SEMARNAT-2010, found in the transects on foot.

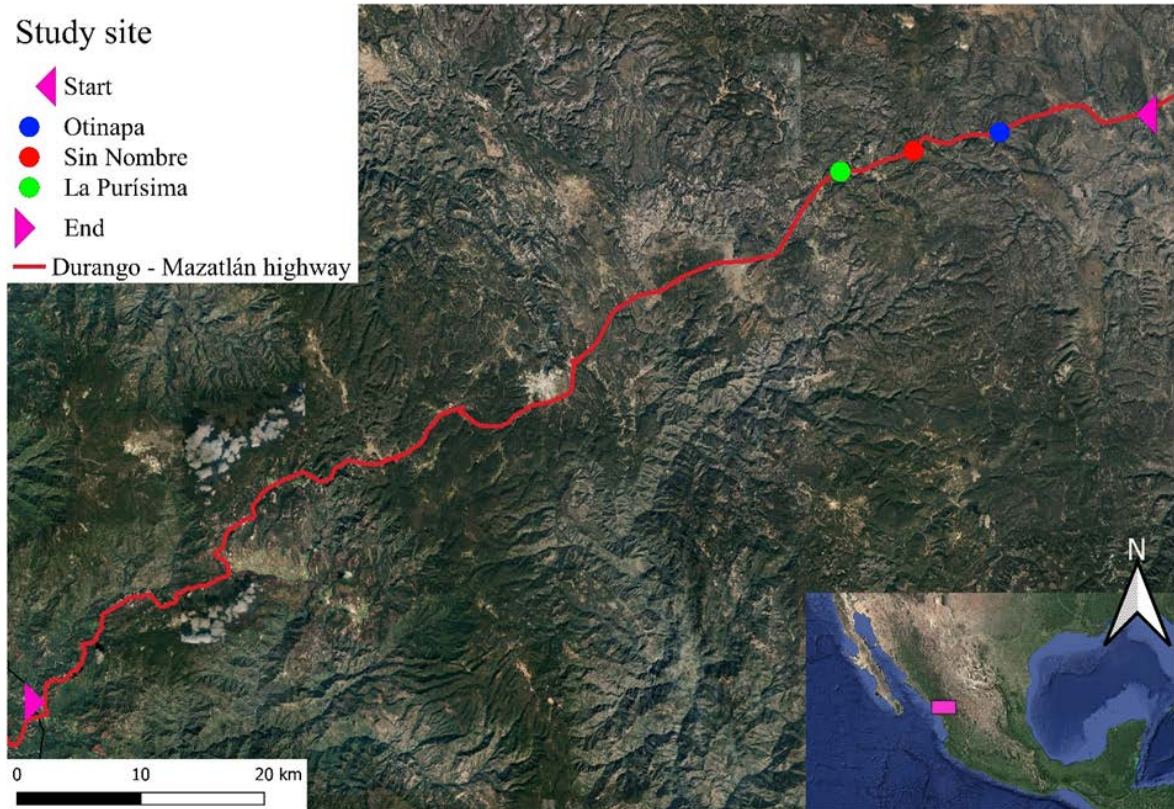


Figure 14. Map of the study area.

