

First Quarter Update

Project Title: Molecular Identification and Community-Driven Conservation of Musk Deer in Himalayan National Park

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Overview

During the first quarter, field surveys and non-invasive sampling were successfully completed in Himalayan National Park. Preliminary laboratory testing was also conducted to assess DNA quality for genetic analyses.

Field Surveys and Sampling

Fieldwork was conducted over approximately 45 days. Four field teams (four members per team) surveyed multiple transects.

Figure 1 Map of Himalayan National Park showing the study area (photo© Hassan Abbas)



Figure 2 Field Team at Himalayan National Park before start of field work (Photo © Faiza Zahra)



Figure 3 Field gear and equipment purchased (Photo ©Hassan Abbas)



Figure 4 Field team discussing sampling methodology using GPS and Map of Himalayan National Park (Photo© Faiza Zahra)



Figure 5 Field team member collecting fecal sample following SOPs (Photo© Rehmatullah)



Figure 6 Principal Investigator collecting fecal samples at Himalayan National Park (Photo ©Hassan Abbas)



Figure 7 Team member with field guider collecting sample (photo© Faiza zahra)



Figure 8 Record GPS coordinate and collected sample from Musk Deer Habitat (Photo© Rehmatullah)



Figure 9 Snow tracks of musk deer observed during field surveys (photo ©Hassan Abbas)



Figure 10 properly labeled fecal samples preserved under cold conditions during fieldwork (photo © Rehmatullah)

Laboratory Work (Preliminary)

Selected fecal samples were processed for preliminary DNA extraction to assess feasibility of downstream genetic analyses. Extracted DNA showed acceptable quality and concentration for PCR amplification, and sequencing

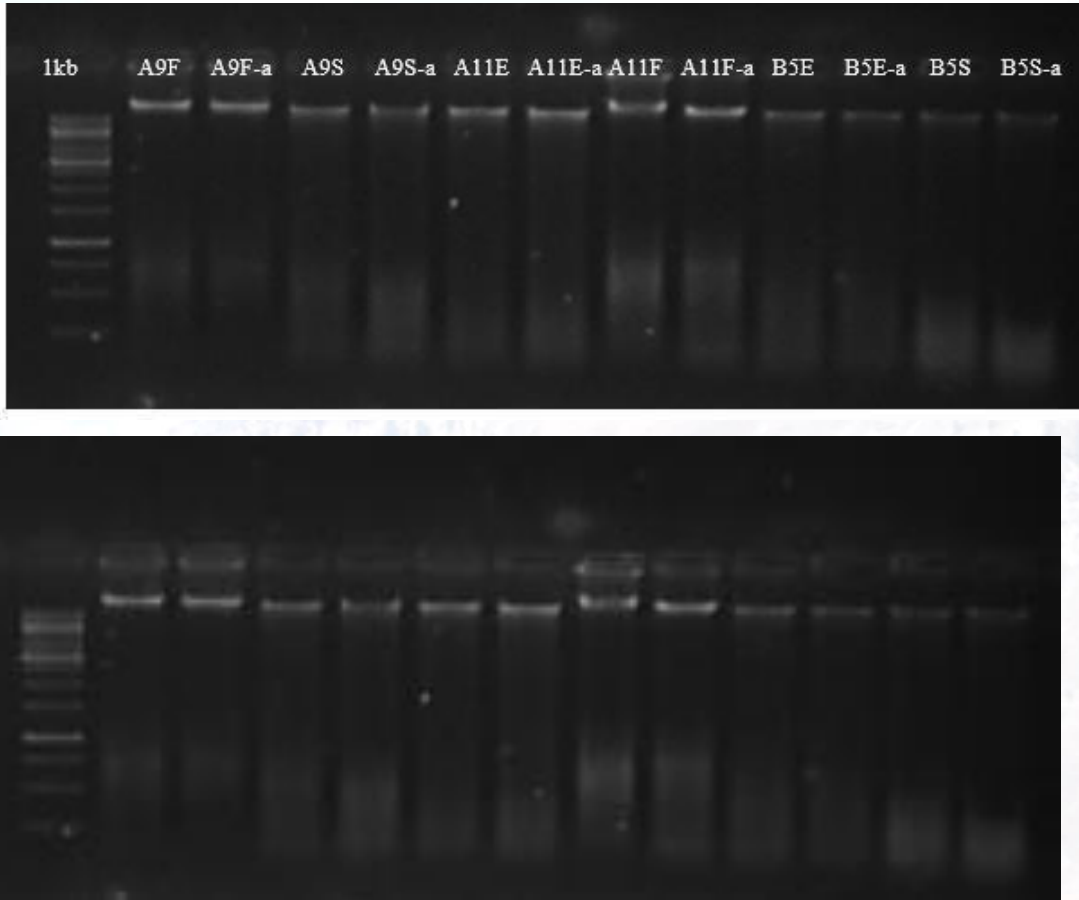


Figure 11 Preliminary DNA extraction and laboratory processing (Photo© Alpha Genomic lab)

Challenges

Due to the cold and winter condition, fieldwork was conducted in steep, high-altitude terrain, which limited daily survey hours. In addition, because musk deer are elusive, it was necessary to rely on indirect indicators like latrine site, scraping marks.

In the laboratory, variability in DNA yield from fecal samples required careful sample handling and initial optimization of extraction protocols.

Next Quarter Plan

In next quarter, we perform DNA extraction from the remaining fecal samples, PCR amplification of target genetic markers, and DNA sequencing for species identification. These analyses will provide the genetic confirmation of musk deer species present in the study area.