

MARGARET CLARK

*Queen Mother Student Travel Award Recipient
Trip to Northern Peru: 6-18 August 2005*

INTRODUCTION

This summer I visited the South American country of Peru from 6-18 of August 2005. The reasons for the visit were twofold. First, I was a member of a nine-person team of volunteers representing the Humane Society of the United States. We provided basic vaccinations and deworming to all the horses, mules and burros in a selection of villages in northern Peru, as well as giving much needed attention to dental and hoof abnormalities, some of which were very severe. We castrated some of the animals, and performed minor surgeries on others as needed. My second role in visiting Peru was to perform a simple study to evaluate the total protein of the animals we treated, and compare that value with their body condition score in search of a possible correlation. Precious few of the horses we saw during the entire trip were at an optimum nutritional status, based on body condition score, and the majority of them were extremely thin – to put it mildly. There was question as to the presence of other factors, besides lack of proper nutrition, which may be contributing to their lack of condition. It was for this study that BEVA awarded me the Queen Mother Student Travel Award.

ITINERARY

All of the following villages were visited under the direction of Drs. David Turoff, DVM and Melinda MacDonald, DVM. Most places are names of villages where we performed vaccination and deworming on all equids presented, as well as hoof trimming and dental attention as needed. Castrations were available upon request by owner. Other sites are explained in brackets. All in all, we attended to approximately 700 horses during the entire working period.

Aug 6/7: travel to Piura, Peru from San Francisco, California

Aug 8th – Day 1: Pueblo Nuevo, Piura

Aug 9th – Day 2: Amotape, Piura
Pueblo Nuevo, Piura

Aug 10th – Day 3: University of Piura, School of Veterinary Medicine (to give lectures on equine dentistry)
Kurt Beer Parc (demonstrations of techniques described in lectures for the benefit of students and veterinary instructors; also performed demonstration of equine castration)

Aug 11th – Day 4: Paita

Aug 12th – Day 5: Huaca, Piura
Buena Ventura, Piura

Aug 13th – Day 6: El Arenal, Piura
La Tahoma, Piura
La Rinconada, Piura

Aug 14th – Day 7: Colan, Piura

Aug 15th – Day 8: Pueblo Nuevo, Piura

Aug 16th – Day 9: Piura Haematological Center (for evaluation of blood samples)

Aug 17/18: travel from Piura, Peru to San Francisco, California

PURPOSE OF VISIT

My main objective in this study was to identify a parameter which could be easily collected and recorded to alert the local veterinarian of a potential problem with his patients. As stated previously, all of the horses we saw were undernourished, most of them significantly. I hoped to find a parameter which might alert the veterinarian to an *additional* illness, rather than simple malnutrition and poor deworming practices. I thought that a measure of total protein would be just such a value, and sought to compare individual total protein values with the body condition scores of each animal. The significance of this could impact anaesthesia and basic medicine for the simple veterinary practice of the region, as well as improve the welfare of the animals through education of their owners.

OBSERVATIONS ON THE VISIT ITSELF

What I did not realize, could not realize, until I arrived in Peru was that there really is no such thing as “veterinary care”. To think that a test such as a PCV and total protein, something we consider totally basic in the western world, would be a possible value to record in the places we visited *once we left* was, quite frankly, totally ludicrous. The people lack the understanding of the importance of regular deworming and an unlimited source of water for their animals. They depend upon them for their survival, and are extremely interested in their health and longevity for the simple reason that the animals are their livelihood, but they do not yet know the animals’ basic needs.

As an example, one of the villagers came to me with a lame horse. He told me that the horse, a 3 year old colt, had injured himself the day before while jumping across a ditch. Not having any of the diagnostic equipment, nor a means of critically evaluating the cause of the lameness, let alone treating it, we were at a loss for how to help the animal who was 7/10 lame. The owner instead paid another villager to treat his horse’s leg. The “healer” spent over 30 minutes massaging the leg and rubbing a homemade liniment into every joint and muscle. It was obviously relaxing for the horse as he calmed down significantly under the massage, but I was skeptical of its effectiveness, especially when the animal limped off just as lame as before. When I asked the healer what was contained in his bottle of liniment, he openly explained it to me: Pasture grass, one poisonous dead snake, water, weeds, and various thistles, all of which I could see through the wine bottle, including the snake. He told the owner that if it was going to work, he would see an improvement in the morning. Interesting. It really highlighted the lack of medical understanding that these people had been exposed to.

Although we also visited the veterinary college in Piura, the paradox is that these students are more likely to practice in the richer parts of Peru where horse polo and racing are popular. Vets simply cannot make a living in the poorer regions, so few of them will treat the horses we saw. I did, however, continue to carry out my study anyway, although I realized that any results I found would be of limited use to the

“veterinarians” of the local area. The education they required included nutrition and proper fitting of tack, regular foot and tooth care, deworming and vaccination. Something like total protein would be far beyond their reach at this point.

In preparing for the study, I researched other causes of hypoproteinaemia and found that babesiosis, infection with blood-borne protozoan parasites, is endemic in bordering countries. I could not find any studies searching for *Babesia spp.* in Peru, but I became suspicious of its presence. As a result, in addition to collecting blood for total protein analysis and recording individual body condition scores of each animal, I also queried the owners as to whether they had ever seen ticks, the disease vector, on their animals, or if they were in contact with cattle. Both of these factors have been shown to significantly increase the risk of babesial infection in horses of Brazil and Ecuador, which border Peru.

The results of my total protein study were unremarkable. There was no obvious correlation between low body condition score and a low total protein. However, it is possible that any hypoproteinaemia could have been masked by dehydration as few of the animals had free access to water. On the other hand, the findings from interviewing owners were very interesting. Nearly thirty percent of animals either had ticks on them at the time of blood collection or had been seen to have them by their owners at some point. An additional sixty-four percent of animals were in contact with cattle on a regular basis. Based on the preliminary results of this survey, it is extremely possible, maybe even likely, that the region’s animals suffer from babesiosis just as do the bordering countries only a couple hundred miles away.

CONCLUSIONS

The results of this study are very exciting. Even though the initial study I set out to do did not reveal any specific findings, the additional information I gained seems to bring up an entirely new question, that of whether or not babesiosis is endemic in Peru. Based on my preliminary investigations, it appears to be an excellent research opportunity for another student or veterinarian to initiate. I was disappointed to have only some pieces to the puzzle, that I could not answer the final question.

Peru is an absolutely beautiful place, and despite the poverty which was significant, I only encountered generosity and good humour in each of the places I visited. I am eternally grateful to the people of Peru for allowing me to explore my queries and to further expand my arsenal of experience. It will guide me in my professional career. I am especially grateful to the trustees of the British Equine Veterinary Association for helping me to fund such an incredible adventure, as this is an experience I will cherish both personally and professionally for the rest of my life.