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# Survey-Based Examination of Demographics, Potential Causes and Treatments of Aberrant Behavior Syndrome (Berserk Male Syndrome) in Camelids

## A.S. Leaflet R3007

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### Summary and Implications

The objective of this study was to examine potential signs, causal factors and treatment interventions for camelids displaying Aberrant Behavior Syndrome (ABS), also known as Berserk Male Syndrome. A survey was developed for camelid owners and veterinarians with camelid experience using Survey Monkey software. Respondents were asked to describe the behaviors associated with the most recent case of ABS they were involved with, information about the animal displaying ABS, and evaluation of the efficacy of treatment interventions used. The majority of respondents identified a general demographic of an intact male camelid raised by its biological mother with daily or weekly handling by humans.

Aggressive behavior emerged at one to three years of age, and was directed more frequently at humans than at other animals. Treatment interventions included behavioral modification, castration, moving and/or isolating the animal. All treatments had a higher rate of failure than success. The results of this survey indicate a need for research to identify causal factors and treatments for this behavioral disorder.

### Introduction

Aberrant Behavior Syndrome (ABS), also known as Berserk Male Syndrome, is a behavioral disorder of camelids that presents as increased aggression towards humans. Some veterinarians suggest that this behavioral disorder typically arises from frequent and extended contact with humans when the animal is young, such as during bottle rearing of cria. One proposed causal mechanism is imprinting by bottle-reared cria onto human handlers, with the result that aggressive and sexual behaviors are directed at humans when the camelid reaches sexual maturity. However, there is a lack of empirical and scholarly research on the subject to support or refute these hypotheses.

The objective of this study was to examine presenting signs, causal factors and treatment interventions for Aberrant Behavior Syndrome (ABS) in camelids using a

survey of owners and veterinarians with camelid expertise. The goal of this study was to generate greater understanding of this behavior disorder to inform prevention and treatment protocols and identify where further research is needed.

### Materials and Methods

*Survey:* Using software provided by the website surveymonkey.com, a 37-question survey was created, with question styles varying from fill-in the blank, to multiple choice, to ranking scales. The first set of questions were demographics of the respondents, including profession, camelids experience and experience with ABS. The remainder of the questions pertained to ABS, specifically focusing on the most recent case that the respondent encountered. Causal factors included upbringing of the animal, frequency of interaction with humans, age at which the animal began to display aggression towards humans, description of aggressive behaviors displayed, and the intensity of aggression on a five-point scale. Treatment factors were explored in questions relating to the types of interventions applied and the respondent's subjective assessment of the effectiveness of these measures.

*Respondents:* Camelid owners and veterinarians throughout the United States and abroad were invited to complete the survey. Respondents were recruited through veterinary professional organizations, electronic list-serves, producer groups, camelid show associations and attendees at regional veterinary and camelid owner meetings. A cover letter, including a link to the survey, encouraged respondents to pass the survey along to other potential owner and veterinary respondents.

### Results and Discussion

There were 28 respondents to the survey, with 1 respondent from Canada and another from Norway. Six respondents had not experienced a case of ABS and were removed from the study (n=22). Eleven respondents had experience with only a single case, 6 had experienced 2 to 6 cases, and 5 respondents had experienced more than 10 cases of ABS.

When describing the most recent case of ABS, 13 respondents referred to llamas and 10 referred to alpacas. The camelids were kept for companion purposes (11), fiber production (9) and show purposes (5). It was interesting to note that none were used as guardians for livestock. Sex included intact males (17), gelded males (4) and intact female (1). There was no obvious association with handling frequency at early ages, ranging from daily (10), weekly (6), and monthly (1) or rarely/for medical purposes (2). None of

the treatments used was reported to be successful for modifying behavior, and euthanasia was chosen as a solution for the majority of cases (15).

The results of this survey support the description of intact males as most at risk for ABS, but females and gelded are also affected. The behavior is sufficiently severe to warrant euthanasia in the majority of cases. Further research is needed to identify affective treatment interventions and to

better understanding the causal and developmental factors for prevention of this behavior disorder.

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