

HORN ROT

RESEARCH PROPOSAL

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▲ HISTORICAL INTRODUCTION

The term “*horn rot*” is indeed used to describe a degeneration of the horns in animals like chamois and tahr, as reported by Steuart Laing and Bruce Banwell in their books: *Chamois, A New Zealand Hunter's Handbook, The Alpine Chamois, and Tahr, A New Zealand Hunter's Handbook*.

Although *horn rot* has been observed in a significant number of hunted animals in New Zealand since the 1990s, no studies have ever been conducted to understand the spread of the phenomenon or identify the pathogen responsible. During the *Pink Eye project* (<https://nztahrfoundation.org.nz/project-pinkeye>), launched by a network of researchers (including the authors of this proposal) in collaboration with the *New Zealand Tahr Foundation*, several cases of *horn rot* in New Zealand chamois were reported. In addition to the reports collected during the *Pink Eye project*, using the so-called *Citizen Science* method, the research team received similar reports from hunters active in the French Alps.



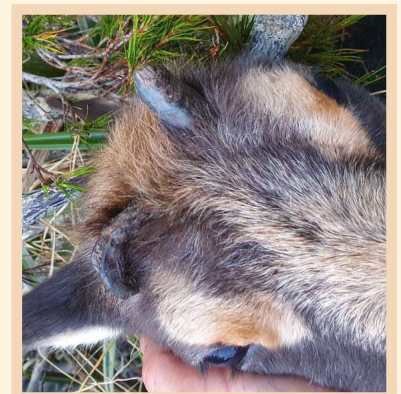
▲ CITIZEN SCIENCE

The term *Citizen Science* literally refers to an approach that aims to involve “ordinary people” in scientific research. The basic principle is that anyone can contribute, based on their knowledge, to gathering information about a particular phenomenon.

This type of approach is widely used in ecological studies and can serve, for example, to broaden knowledge about the presence and distribution of a species by reporting one's observations according to the guidelines established by an institution. The reports collected and submitted by citizens undergo a validation process to ensure their accuracy and reliability.

The authors have already successfully applied this approach for the health monitoring of a population of Tahr and Chamois in New Zealand, with excellent results in improving knowledge about the distribution of infectious keratoconjunctivitis in these ungulate populations. The final research results are available here:

https://www.nztahrfoundation.org.nz/sites/default/files/Pink_Eye_project_brochure_Final.pdf

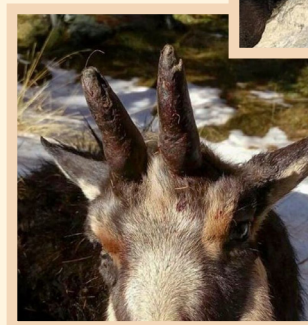


▲ RESEARCH OBJECTIVES

This research has both short-term and long-term objectives. In the short term, it aims to understand the existence, distribution, and incidence of the phenomenon in the Alpine Chamois population, and to determine whether and which epidemiological, population, and environmental factors may contribute to the occurrence of *horn rot*.

As a more ambitious and long-term goal, the research seeks to investigate, through laboratory tests, the possible presence of pathogens as the cause of the phenomenon.

This proposal focuses on the short-term objectives which, if achieved, may serve as a foundation for a more ambitious and complex study centered on the long-term goals.



▲ DATA COLLECTION AND ANALYSIS

The data will be collected through an online questionnaire available on the website of the **NZ DEER STALKER ASSOCIATION**. This questionnaire will be shared not only with *NZDA* members but also with Nz hunters.

The survey will contain a series of targeted questions aimed at understanding the distribution, incidence, and impact of *horn rot*, while also gathering as much information as possible to identify the risk factors (individual, epidemiological, and environmental) that may have contributed to its occurrence. The collected data will then undergo statistical analysis to identify the factors that are effectively responsible for the appearance and distribution of *horn rot*.

▲ COST ESTIMATION

As it is not possible to determine whether a single year of investigation will be sufficient, the cost estimate provided in the table refers to a one-year period.

Item	Unit cost (Euro)
Annual Jotform Subscription for Creating Online Questionnaires	408,00
Annual License for PowerBI Software (Power BI Premium) for Data Analysis and Visualization	225,00

