

# ?? WHAT'S BUGGING WILD CRITTERS ??

(fact sheets of common parasites and diseases of fishes and wildlife in Alberta)



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## Preface

You've had a wonderful outdoor experience: a great day in the Great Outdoors. You may have harvested fish or wildlife; you may have watched and marvelled at the beauty in wildness; you may have seen wildlife in your pastures or in your haystacks. But your mind turns to other things: Are these fishes and wildlife healthy? Do these animals pose a health risk to you? or to your livestock? or to your pets? What else lives in or on those wild critters? These parasite and disease fact sheets aim to answer those questions for you.

There is a wide assortment of largely unseen animals that live in or on familiar fish and wildlife species. Traditionally these other animals are maligned as "parasites" and "low-lives" sucking the life energies from species more important and pretty to look at. The fact sheets in this series offer a different perspective on such critters. In the bigger picture, all native species occur as natural components of Alberta's ecosystems and are for the most part quite harmless. Only occasionally do we see "disease" or parasite-related mortality in wildlife in the province. In such cases, often both the "infecter" and the "infectee" lose out. Thus, disease is something to be avoided by all involved. Any animal that destroys its required habitat (i.e., its host species in this case) is doomed to extinction, regardless of how big or how small the critter is. "Significant" mortality is often a human perspective lacking understanding of the complexity of interactions among species. Wildlife and human health impacts need to be placed in an appropriate context.

It is one thing to know that something can theoretically happen, but quite another to know that it rarely actually happens.

The fact sheets attempt to promote four major things:

**knowledge:** through text and illustrations, readers will find out how to identify these animals, learn how they got there, and obtain answers to common questions asked by a wide range of people.

**education:** readers will learn some key facts about each species as a life form, its needs, and any risks that it may pose to others.

**understanding:** readers will gain perspective on these animals as having their own role to play in the world. Like any other species, they simply seek a place to eat, sleep, and reproduce and thus, follow the prime biological directive of maintaining populations. Their sole driving force is to find a place to safely and successfully accomplish these needs.

**appreciation:** most of all, it is hoped that each reader will learn to appreciate these animals as natural components of the complex matrix of life on earth. You may even come to like some of them!



m.j. pybus

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Introduction

# Introduction

## Overview

Alberta has some of the best Watchable Wildlife opportunities in the country. The diversity of wild life-forms surpasses that in many other jurisdictions and runs the gamut from ants and antelope to walleye and whiskey jacks. Many species are well known and well appreciated for a multitude of benefits. However, most of the animals described in these fact sheets are seldom seen and often unknown or misunderstood by those who see them for the first time. Once seen, they evoke some obvious concerns about whether they are a risk to people, to livestock, or to other wildlife. Common questions include: Will they infect me? Can they infect my livestock or pets? How did these animals get there? Do they infect other wildlife? Are they a problem? How can I find out what they are? Can I eat the meat? Can I get a new tag?

By far, the majority of individual fishes and wildlife in Alberta are healthy. It is a rare event to see sick or dying animals; however, even though healthy, most if not all wild animals also carry other animals that live in various tissues and

organs or live in/on the hair, feathers, and scales. In another way to look at this: "infection" with species which live in or on other animals is extremely common, whereas "disease", a situation where one animal is detrimentally affected by another animal that lives in or on it, is extremely rare.

The use of the term "parasite" is avoided in these publications. The instinctive human response is to think that such animals are "bad" and should be removed or controlled wherever they exist. In the context of critters in or on people, livestock, and pets this is probably appropriate. However, it is a strictly human perspective and does not reflect the reality of biological and ecological systems.

Is a wolf "bad" because it eats caribou? Is it "good" because it eats mice? In a biological sense, the wolf is a predator and simply eats what it can catch. In an ecological sense, the wolf plays various roles in a complex web of life. Neither good nor bad, wolves simply exist. Similarly, "parasites" eat what they can and live where they can. They are part of the complicated balance among all free-ranging native species.

## DEDICATION

this fact sheet series is dedicated to the wisdom, guidance, and memory of

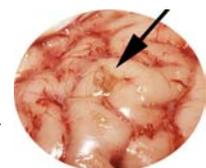
Roy C. Anderson

Dr. Anderson was a mentor and guiding light to most, if not all, of the current generation of wildlife parasitologists in Canada. He shared his wisdom from the corridors and benches of his lab at the University of Guelph as well as in innumerable publications in scientific journals read throughout the world. His books summarizing the known life histories of parasitic nematodes in vertebrates stand as the culmination of his contributions and will undoubtedly guide future generations of parasitologists for years to come.

He challenged us all to live up to his example.



R Anderson & moose with meningeal worm



M.T. Pybus

## About these fact sheets

These parasite and disease fact sheets are intended to help the reader identify common yet largely unknown animals that may be seen from time to time. In other situations, people may hear or read about such animals and want to know more about them. The fact sheets are a source of information and understanding of such animals, particularly as they occur in Alberta, and provide follow-up references to more detailed information.

The fact sheet series does not include all the species that live in or on other wild animals in the province. Nor is it a substitute for appropriate diagnostic evaluation of sick or dead animals (please see below).

## How to use these fact sheets

Tables are provided to help you quickly narrow down the possibilities and eliminate unlikely alternatives. Many of the individual descriptions contain colour photos to let you see what the animal looks like or what lesions may be associated with it. Line drawings will help you understand the life history of many of the species.

An index identifies the topics included in this series. Active links are provided on web versions when fact sheets are available.

Picture keys (icons) are used throughout the text to help identify specific aspects of interest:

### public health:

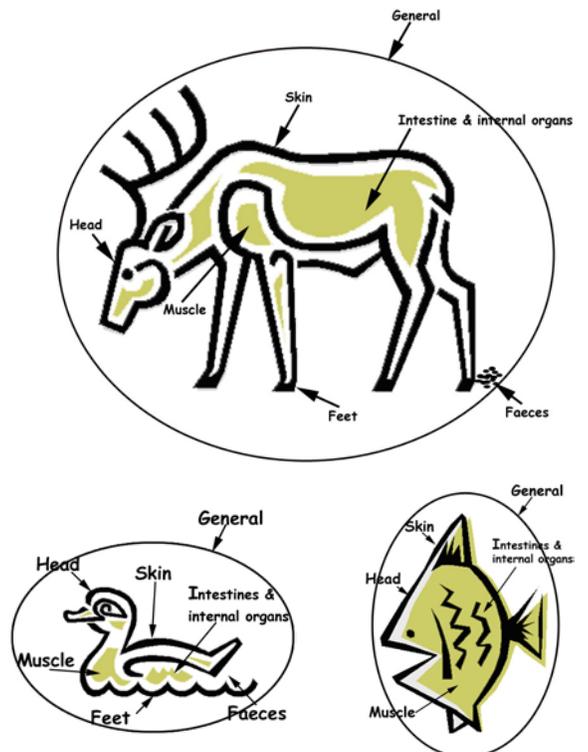
-  can infect people
-  cook well
-  do not eat
-  do not feed to dogs

### primary hosts (= habitats):

-  amphibians
-  big game
-  carnivores
-  fish
-  furbearers
-  small mammals and bats
-  song birds
-  waterfowl

### location:

general, faeces, feet, head, intestine, muscle, organs, skin.



Figures are representative for all species of mammal, bird, or fish

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## What to do if you find a sick or dead wild animal

Anyone who finds a sick wild animal is asked to call any local office of the Fish and Wildlife Division, Alberta Sustainable Resource Development. Office contact numbers can be found in the blue pages of your local Telus phone directory, through the provincial government website, or are available from the government switchboard at 310-0000. Toll-free calls [310-0000] can be placed to most government offices in the province.

If you are a hunter who finds something unusual in a big game animal, you must tag the carcass, gut it, and handle it so that the meat does not spoil. If you find something unusual in a fish, freeze it. In either case, call the local Fish and Wildlife office. In many cases, a Fish and Wildlife officer or wildlife biologist may be able to answer your questions directly. If not, remove the tissue of concern and take it or the entire carcass to a Fish and Wildlife office. Try to keep the tissues cool or freeze them if you cannot get to an office within a day or two. Identify the date and location of the kill, species, sex, and approximate age (young of year, yearling, adult) as well as any unusual weather or details that can help us determine what may have happened.

Death is a part of all ecosystems and animals die every day. Without death, the complex web of life would quickly unravel. However, if you find a significant number of dead fish or wildlife or feel there is an unusual situation associated with death of wild animals, please notify the local Fish and Wildlife office.

## General Precautions

Although human health risks associated with fishes and wildlife in Alberta are low, it is always good to wear gloves and/or wash thoroughly after handling a wild animal, particularly if it was found dead. Always contact a physician whenever unusual fevers, swellings, or pain occur.

When storing or transporting diagnostic samples or found dead wildlife, it is best to use strong plastic bags or double bag the material. Take care to avoid sharp beaks, toes, or bones that may puncture the bag or scratch anyone handling the bag. Please help us by clearly labelling the sample and include the date, location, species, and reason for concern. In addition, please provide a contact address or phone number if you would like follow-up information.



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