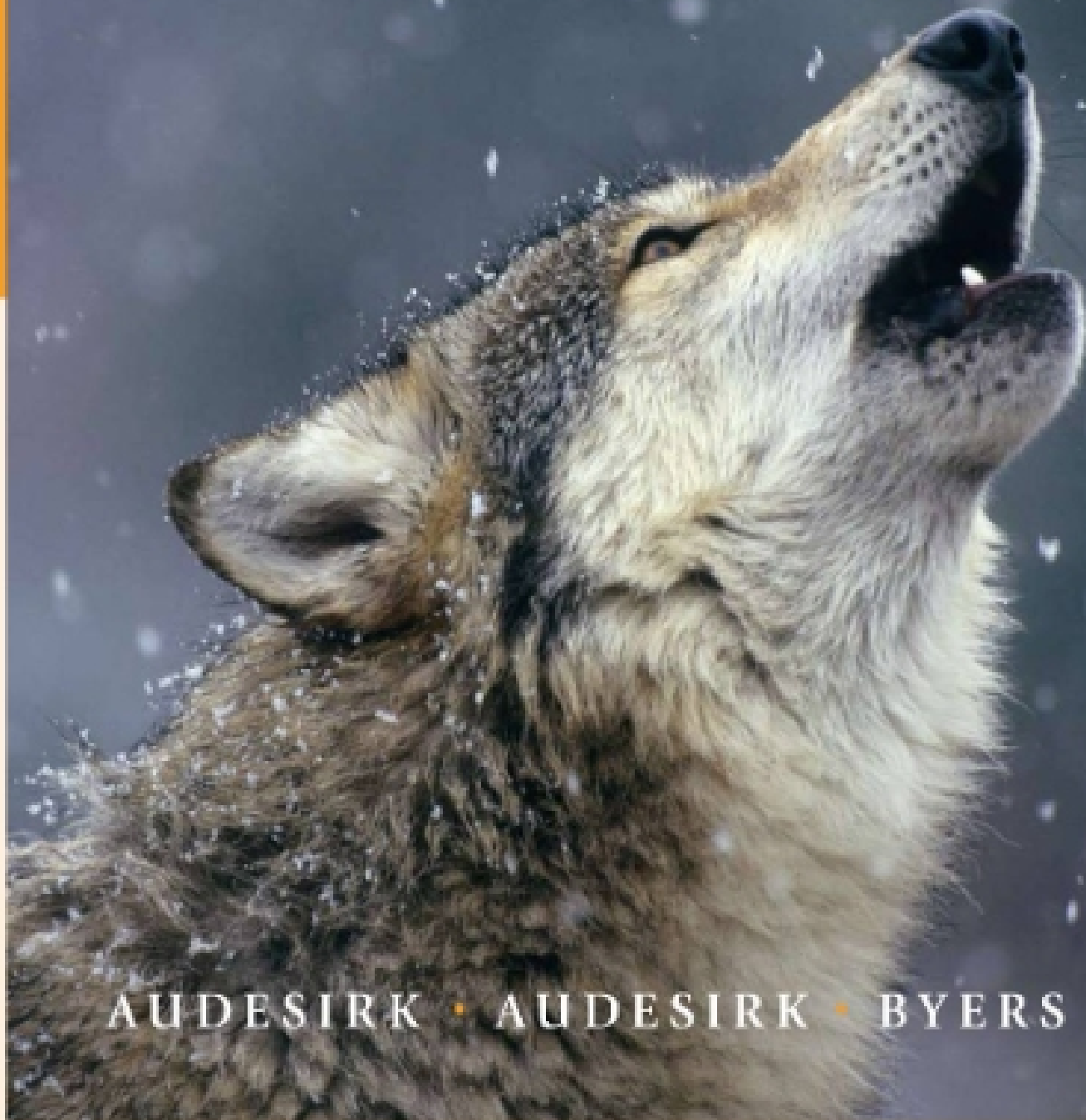


NINTH EDITION

BIOLOGY

LIFE ON EARTH



Chapter 36

Defenses Against Disease

Lecture Outlines by Gregory Ahearn,
University of North Florida

Chapter 36 At a Glance

- 36.1 What Are the Mechanisms of Defense Against Disease?
- 36.2 How Do Nonspecific Defenses Function?
- 36.3 What Are the Key Components of the Adaptive Immune Response?
- 36.7 How Does Medical Care Assist the Immune Response?
- 36.8 What Happens When the Immune System Malfunctions?
- 36.9 How Does the Immune System Combat Cancer?

36.1 What Are the Mechanisms of Defense Against Disease?

- The world is teeming with microscopic living organisms called **microbes**, which include bacteria, protists, and fungi; and viruses, which are not considered to be alive
 - Most microbes live in water or the soil; most that live in animal bodies do not harm them and may be beneficial
 - When microbes cause disease, they are called **pathogens**
 - Most microbial diseases, such as cholera, measles, plague, tetanus, and chicken pox, have been with humans for thousands of years
 - New, more deadly strains of familiar pathogens are called **emerging infectious diseases**