

Chapter One

Roots and Relatives

During the latter third of the 20th Century, large whales were transformed from a commercial commodity of oil and meat products to a powerful icon of our concern for the ecological future of our planet and of our role in it. Yet, in our expression of concern for the future of these spectacular animals, we too often ignore much of their specialness with the casual act of lumping more than eighty different species of whales together with that single term ‘whale’. Yes, they are all whales, but ‘whales’ is not a homogeneous group. Although many whales are quite large, some dolphins are smaller than humans when fully grown. Not all species of whales are endangered (either legally or biologically). And some whales exhibit many of the hallmarks of ‘intelligence’ while others rank low on comparative scales of intelligence based on relative brain size or cognitive complexity. Killer whales and dolphins have relatively large brains and are intensely socially interactive, blue and gray whales do not and are not.

This book is about a certain whale, *Eschrichtius robustus*, the gray whale (Fig. 1.1). Here we will consider its evolution and biology, its history of interactions with humans, and its role within a larger system of marine animal interdependencies. Gray whales share with all other whales a common evolutionary ancestry and a suite of adaptations molded by the challenges this mammalian lineage has faced in its transition from a life on land to one in the sea. Even so, gray whales are distinct from other whales, and this book is an attempt to convey that uniqueness. Along the way, I hope to shed a little light on the lives and lifestyles of other whales as well.



Figure 1.1. A very high gray whale spy-hop. Photo courtesy LSI-ECP.

Gray whales are medium-sized whales that reach maximum lengths of 15m. This single species of whale includes one or two populations from the North Atlantic Ocean that have become extinct within historic times, a western North Pacific Ocean population that is currently critically depleted, and a nearly recovered population inhabiting the eastern side of the North Pacific Ocean. So, with two surprising exceptions described in Chapter 5, members of this species are now completely restricted to the margins of the North Pacific Ocean basin. They are probably as familiar to people as any other kind of large whale in existence. This is partly due to their near-shore migratory habits, making these animals common sights for shore- and boat-based whale-watchers along most of the west coast of North America from the Bering Sea to Baja California.

Gray whales are so distinctive from other whales that they are one of the easiest species to identify in the field. They lack dorsal fins, a feature of most other whales that is obvious when they are at the sea surface. Instead, a low rounded dorsal ridge is followed by a series of 8-9 bumps, or knuckles, extending down the top midline of the tailstock almost to the flukes (Fig. 1.2).



Figure 1.2. Knuckles and dorsal ridge of a gray whale. Its head is to the right. Courtesy Y.Yakovlev and Olga Tyurneva.

At birth, gray whale calves are a uniform dark, gunmetal gray, sometimes with a few scattered light spots of pigmentation (Fig. 1.3), but by three months of age they have developed the overall mottled gray and white color so characteristic of adults. By that age, calves have also collected their first crop of barnacles and cyamids (often referred to as 'whale lice', see Fig. 3.10 and 3.11) that create distinctive patches of light orange color over the head and upper torso of the body (Fig. 1.4). Other species, especially right and humpback whales, also have barnacle and cyamid patches; however they are neither as abundant nor as broadly distributed over their bodies as they are on gray whales. These barnacle/cyamid patches contribute to the ease with which grays are distinguished from other whales as visually unique individuals.



Figure 1.3. Dark gray neonate gray whale with its lighter colored mom in background.

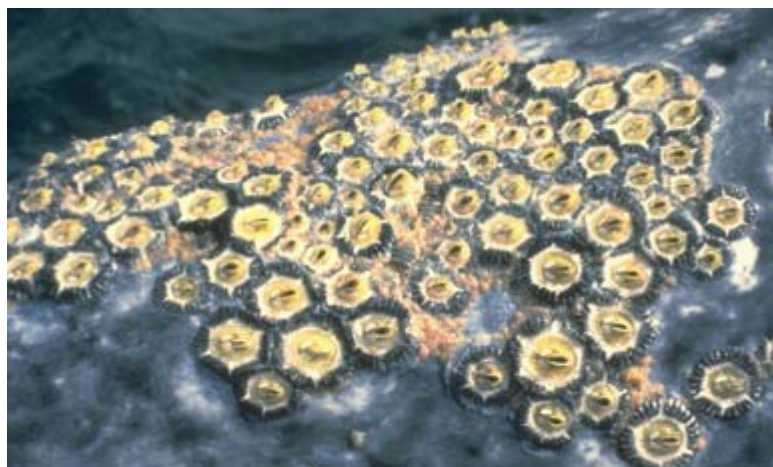


Figure 1.4. Flattened segmented cyamid amphipods (orange patches) nestled between larger barnacles on the rostrum of an adult gray whale.

In this chapter, the evolutionary history of whales is briefly outlined, and the characteristics of gray whales and other cetaceans are described. Chapter 2 examines some of the complex history of our interactions with this exceptional whale. More details of the biology and behaviors of modern gray whales are presented in Chapters 3 and 4. Finally, an overview of current issues and research directions is addressed in Chapter 5.