

**WEST COAST SHELLS: A FAMILIAR  
DESCRIPTION OF THE MARINE, FRESH  
WATER, AND LAND MOLLUSKS OF  
UNITED STATES, FOUND WEST OF THE  
ROCKY MOUNTAINS**

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West Coast Shells: A Familiar Description of the Marine, Fresh Water, and Land Mollusks of United States, Found West of the Rocky Mountains by Josiah Keep

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**JOSIAH KEEP**

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SURCULA CARPENTERIANA  
Figure 41, page 57.

# WEST COAST SHELLS.

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A FAMILIAR DESCRIPTION OF THE  
MARINE, FRESH WATER, AND LAND MOLLUSKS  
OF THE UNITED STATES, FOUND  
WEST OF THE ROCKY  
MOUNTAINS.

*Adapted to the Use of Schools, Private Students, Tourists,  
and all Lovers of Nature.*

BY  
JOSIAH KEEP, A. M.,  
PROFESSOR OF NATURAL SCIENCE, MILLS COLLEGE.

*With Numerous Illustrations by LAURA M. MELLEN,  
Teacher of Art, Mills College.*

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## PREFACE.

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THE kind reception given to my little book on the "Common Sea-shells of California," has induced me to prepare this larger work, embracing a wider territory, namely, that part of the United States lying west of the Rocky Mountains.

The present volume includes descriptions of all the species mentioned in the former one, together with many others of the more minute and uncommon marine shells which are found from Puget Sound or Alaska on the north, to San Diego on the south.

It also describes the land and fresh-water mollusks of California, Oregon, Washington, Idaho, Utah and Nevada, thus making it of use as a reference-book for the interior, as well as along the sea-coast.

While not claiming absolute completeness, I trust it will be found sufficient to enable students and collectors to identify all the specimens which they will be likely to gather within the limits already mentioned.

The nearly two hundred engravings have all been drawn from nature, expressly for this work, and while materially increasing its cost, they will, I trust, even more increase its value.

Some additional matter respecting the authors of the specific names, a Glossary, and a brief Key for the Analysis of Shells, will be found near the close of the book.

The work is written in a familiar style, but is believed to be scientifically accurate. Though containing many hard names and



technical descriptions, I hope that the indicated pronunciation of the names, and the interest of the subject, may render it available, not only as a school-library reference-book, but as a book for supplemental reading in the more advanced classes of our schools.

It is most desirable that the children and youth of our Western Slopes should become interested in, and intelligently acquainted with, the rich and varied forms of life which are resting or moving all around them.

If this book shall awaken or increase an interest in the humble but beautiful creatures of which it treats, my purpose will be accomplished.

It remains for me to thank the many kind friends who have assisted me; particularly Mrs. C. T. Mills, whose generous additions to the college cabinet have been of the greatest assistance; and Miss Laura M. Mellen, whose skill in illustrating the work speaks for itself, but whose patience and painstaking are known to but few. I also wish to thank those who have kindly given me valuable specimens and information, and to commend our united labors to all lovers of nature.

J. K.

MILLS COLLEGE, CALIFORNIA, July, 1887.

# WEST COAST SHELLS.

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## CHAPTER I.

THE OCEAN HOME—ITS INHABITANTS—A VISIT TO THE  
SHORE—THE TRUE FAIRYLAND—WHAT WE SEE THERE  
—BEAUTIFUL FORMS OF LIFE—SYMPATHY WITH LIVING  
THINGS—OUR CHOICE—THE KINDLY SPIRIT.

THE ocean is a great home. Its waters are full of life. The rocks along its shores are thickly set with living things; the mud and sand of its bays are pierced with innumerable burrows, and even the abyss of the deep sea has its curious inhabitants.

Huge whales steam along near the surface of the ocean; fishes of a thousand kinds are at home a little lower down; crabs and lobsters, star-fishes and sea-urchins, creep along the rocks or make their way through the masses of seaweed which grow near the shores. Clams and oysters lie on the bottom; sea-snails, with their curious shells, mussels, barnacles, and a host of inferior creatures, all find their proper places in this great ocean home.

We are not able to see all that is going on under the water; in fact, our field of observation is quite limited; but by keeping a sharp lookout we may be



able to discover a great many interesting facts, and to make very probable guesses as to things which we cannot clearly observe.

So come with me some fine summer morning down to the ocean beach. We will choose a day when low tide occurs about sunrise, and we will be promptly on hand at that hour. There is a light fog floating over the water, and as we come down to the shore we are surprised to see what a broad stretch of mossy rocks has been left bare by the retreating tide.

We walk quickly across the sandy beach, clamber over the slippery rocks as far as the water will allow us, and then we look and listen. Some distance out the big waves come rolling in, smooth and glassy, till they strike the shoaling bottom. There the lower part of the wave is stranded, but the top by no means loses its shoreward motion. Rushing forward, it curls and breaks into foam with a roaring splash, while the water at our feet, feeling the impulse, presses in between the rocks with a soft murmur and then flows back again to meet the next incoming wave.

There are tones of music in all this never-ending motion of the sea which can hardly be described, but which bring to the ear of the sympathetic listener the sweetest of nature's harmonies. The deep bass of the breakers mingled with the lighter notes of the throbbing wavelets, the dripping of the mossy rocks, and the rustle of little crustaceans—all these sounds, united with the sweet breath of the sea, and joined with the lovely forms and beautiful colors which are all around us, all these make us believe that we are in fairyland, and we almost envy the mermaids in their homes among the coral groves, where the draperies are mosses and the pavements are of pearl.