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FORAMINIFERA OF THE NORTH PACIFIC
OCEAN, PART IV: CHILOSTOMELLIDÆ,
GLOBIGERINIDÆ, NUMMULITIDÆ**

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JOSEPH AUGUSTINE CUSHMAN

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A MONOGRAPH OF THE FORAMINIFERA
OF THE NORTH PACIFIC OCEAN

PART IV. CHILOSTOMELLIDÆ, GLOBIGERINIDÆ
NUMMULITIDÆ

BY

JOSEPH AUGUSTINE CUSHMAN
Of the Boston Society of Natural History



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II

INTRODUCTION.

The present volume is the fourth of a series dealing with the Foraminifera of the North Pacific Ocean. It contains the Foraminifera included in the families Chilostomellidæ, Globigerinidæ and Nummulitidæ. The last family while not appearing in its usual place above the Rotalidæ is included here simply for the better balancing of the present part, the other two included families being comparatively small. The first part, issued in 1910, included the families Astrorhizidæ and Lituolidæ; the second part, issued in 1911, included the family Textulariidæ; and the third part, issued in 1913, included the family Lagenidæ. Part five will be devoted to the Rotalidæ and part six, the last, will be given to the Miliolidæ.

JOSEPH AUGUSTINE CUSHMAN.

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A MONOGRAPH OF THE FORAMINIFERA OF THE NORTH PACIFIC OCEAN.

CHILOSTOMELLIDÆ, GLOBIGERINIDÆ, NUMMULITIDÆ.

By JOSEPH AUGUSTINE CUSHMAN,
Of the Boston Society of Natural History.

INTRODUCTION.

This fourth part of the work on the North Pacific Foraminifera deals with three comparatively small families. In the natural order of sequence the family Nummulitidæ should follow the Rotalidæ, but it is here included so that the next part may be devoted entirely to the Rotalidæ and the final part to the Miliolidæ.

As these families have been long worked on and especially the Globigerinidæ are of world-wide distribution it has been unnecessary to describe new species. Although the North Pacific as a whole is an area of red clay owing to the great depth, nevertheless in many parts it has immense deposits of typical Globigerina ooze, and these with certain restrictions which will be noted are very similar to those of the North Atlantic.

The Nummulitidæ are rather poorly represented in the material, largely due to the fact that most of the North Pacific material which has been at my disposal has come from deep water and for the most part outside the Tropics. The Nummulitidæ, especially the larger forms, are characteristic of shallow tropical regions, especially abundant about coral reefs. Such habitats occur about the Hawaiian Islands and the Philippines, and here they are abundant, especially in the latter archipelago, but unfortunately the material from this region available for the present work is very limited. One interesting feature is the occurrence of these tropical forms up to the southern coast of Japan, where, as has already been several times noted, the southern East Indian fauna seems to reach its northern limits in this region.

Certain of the Globigerinidæ have been illustrated by photographs taken at the United States National Museum from mounted specimens. While these are too small to give minute detail they show in a general way the actual appearance of the specimens better than drawings.