

## CONTENTS

LIST OF ILLUSTRATIONS.....	vii
FOREWORD .....	xi
ABSTRACTS (ENGLISH, RUSSIAN, FRENCH) .....	1
INTRODUCTION .....	4
HISTORY OF CLASSIFICATION .....	8
GENERAL DESCRIPTION OF MOSASAUR SKULL .....	13
Muzzle unit .....	14
Parietal unit .....	27
Occipital unit .....	29
Pterygoid units .....	41
Epipterygoid units .....	45
Stapes units .....	45
Quadrate units .....	46
Anterior lower jaw .....	49
Posterior lower jaw .....	51
Marginal dentition .....	54
FUNCTIONAL ANATOMY OF CRANIAL SKELETON.....	58
Sensory functions .....	58
Cranial circulation .....	59
Cranial kinesis .....	60
Streptostyly .....	63
Mandibular movements .....	64
Conclusions .....	65
GENERAL DESCRIPTION OF POSTCRANIAL SKELETON .....	70
Cervical vertebrae .....	70
Dorsal vertebrae .....	76
Caudal vertebrae .....	78
Pectoral appendage .....	82
Pelvic appendage.....	97
FUNCTIONAL ANATOMY OF POSTCRANIAL SKELETON.....	107
Functional anatomy of the vertebral column .....	107
Functional anatomy of the forelimb .....	111
Functional anatomy of the hindlimb .....	115
Swimming in mosasaurs .....	119
SYSTEMATICS .....	121
Subfamily Mosasaurinae .....	123
<i>Clidastes</i> .....	124
<i>Mosasaurus</i> .....	131
<i>Amphekepubis</i> .....	141
<i>Liodon</i> .....	142
<i>Globidens</i> .....	144
<i>Plotosaurus</i> .....	145
Foreign genera of Mosasaurinae .....	147
Subfamily Plioplatecarpinae .....	148

<i>Platecarpus</i> .....	148
<i>Ectenosaurus</i> .....	156
<i>Plioplatecarpus</i> .....	158
<i>Prognathodon</i> .....	162
<i>Plesiotylosaurus</i> .....	167
<i>Halisaurus</i> .....	168
Foreign Plioplatecarpinae .....	169
Subfamily Tylosaurinae .....	170
<i>Tylosaurus</i> .....	170
Foreign Tylosaurinae .....	176
Mosasaur of uncertain taxonomic position .....	176
<b>STRATIGRAPHIC AND PALEOECOLOGIC CONSIDERATIONS</b> .....	185
Gulf Coast Cretaceous .....	185
New Jersey Cretaceous .....	186
Niobrara Formation .....	186
Pierre Formation .....	187
Additional occurrences of American mosasaurs .....	189
Foreign occurrences of mosasaurs .....	190
Ecological conclusions .....	191
<b>EVOLUTIONARY CONSIDERATIONS</b> .....	193
Mosasaurs compared with platynotan lizards .....	193
Phylogeny of platynotans .....	199
Phylogeny of mosasaurs .....	202
Evolution of mosasaurs .....	204
<b>APPENDIX A—MEASUREMENTS</b> .....	208
<b>APPENDIX B—LOCALITIES OF PIERRE MOSASAURS</b> .....	210
<b>LITERATURE CITED</b> .....	212
<b>INDEX</b> .....	225
<b>CHARTS 1-7</b> .....	231
<b>PLATES 1, 2</b> .....	239