Evolution of Herbivory in Terrestrial Vertebrates
Perspectives from the fossil record

Although herbivory probably first appeared over 300 million years ago, it only became established as a common feeding strategy during Late Permian times. Subsequently, herbivory evolved in numerous lineages of terrestrial vertebrates, and the acquisition of this mode of feeding was frequently associated with considerable evolutionary diversification in those lineages. This book represents the first comprehensive overview of the evolution of herbivory in land-dwelling amniote tetrapods in recent years. In *The Evolution of Herbivory in Terrestrial Vertebrates* leading experts review the structural adaptations for, and the evolutionary history of, feeding on plants in the major groups of land-dwelling vertebrates, especially dinosaurs and ungulate mammals. As such it will be the definitive reference source on this topic for evolutionary biologists and vertebrate paleontologists.

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Contents

List of contributors page vii
Preface ix

1 Herbivory in terrestrial vertebrates: an introduction 1
HANS-DIETER SUES

2 Herbivory in late Paleozoic and Triassic terrestrial vertebrates 9
ROBERT R. REISZ AND HANS-DIETER SUES

3 Prosauropod dinosaurs and iguanas: speculations on the diets of extinct reptiles 42
PAUL M. BARRETT

4 The evolution of sauropod feeding mechanisms 79
PAUL UPCHURCH AND PAUL M. BARRETT

5 Plant-eaters and ghost lineages: dinosaurian herbivory revisited 123
DAVID B. WEISHAMPEL AND CORALIA-MARIA JIANU

6 Dental constraints in the early evolution of mammalian herbivory 144
JOHN M. RENSBERGER

7 Patterns in the evolution of herbivory in large terrestrial mammals: the Paleogene of North America 168
CHRISTINE M. JANIS

8 Origin and evolution of the grazing guild in Cenozoic New World terrestrial mammals 223
BRUCE J. MACFADDEN

Taxonomic index 245
Subject index 249
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Preface

This book presents a collection of paleontological perspectives on the origin and evolution of herbivory in various major taxa of terrestrial vertebrates. The complex interactions between plants and their animal consumers have long been the subject of much interest to evolutionary biologists. At the same time, most studies exploring coevolutionary relationships have focused on extant organisms, and generally little attention has been paid to the historical development of plant–animal interactions through time documented by the fossil record.

Most contributors to this volume review the nature and acquisition of structural features of the skull and dentition suitable for feeding on high-fiber plant material in various major lineages of herbivorous tetrapods. In some instances, they also discuss other lines of evidence (such as isotopic data) bearing on this issue as well as the possible impact of herbivory on the evolutionary diversification of that group. Traditionally, paleobiological studies have assumed a direct relationship between form and function, but current research on the functional morphology of extinct organisms is much more mindful of the inherent theoretical and practical difficulties in reconstructing the habits of ancient organisms. The present volume cannot and does not provide a comprehensive account of herbivory in extinct vertebrates. Rather, it is intended as a review of current research on some of the key issues for advanced students of evolutionary biology, historical ecology, and paleobiology and, it is to be hoped, as a stimulus for further work.

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