

Contents

List of contributors	page ix
Introduction: studying diversity in an era of ubiquitous genomics	1
JAMES A. COTTON AND PETER D. OLSON	
Part I Next Generation Phylogenetics	11
1 Perspective: Challenges in assembling the ‘next generation’ Tree of Life	13
MICHAEL J. SANDERSON	
2 The role of next generation sequencing technologies in shaping the future of insect molecular systematics	28
JOSEPH HUGHES AND STUART LONGHORN	
3 Phylogenomics of Nematoda	62
MARK BLAXTER, GEORGIOS KOUTSOVOULOS, MARTIN JONES, SUJAI KUMAR AND BEN ELSWORTH	
4 High-throughput multiplexed mitogenomics for Metazoa: prospects and limitations	84
PETER G. FOSTER, MARIA A. STALTERI, ANDREA WAESCHENBACH AND D. TIMOTHY J. LITTLEWOOD	
5 Investigating bacterial microevolution through next generation sequencing	101
JOSEPHINE M. BRYANT AND SIMON R. HARRIS	
Part II Next Generation Biodiversity Science	121
6 Perspective: <i>Après le déluge</i>: ubiquitous field barcoding should drive 21st century taxonomy	123
RICHARD M. BATEMAN	
7 Perspective: Biodiversity and the (data) beast	154
HOLLY M. BIK AND W. KELLEY THOMAS	
8 Next generation biodiversity analysis	175
MEHRDAD HAJIBABAEI AND IAN KING	
9 Protist systematics, ecology and next generation sequencing	195
DAVID BASS AND THOMAS BELL	

Cambridge University Press

978-1-107-02858-6 - Next Generation Systematics: The Systematics Association Special Volume 85

Edited by Peter D. Olson, Joseph Hughes and James A. Cotton

Table of Contents

[More information](#)

VIII CONTENTS

Part III Next Generation Challenges and Questions	217
10 Perspective: Systematics in the age of genomics	219
ANTONIS ROKAS	
11 Perspective: The role of next generation sequencing for integrative approaches in evolutionary biology	229
RALF J. SOMMER	
12 Next generation apomorphy: the ubiquity of taxonomically restricted genes	237
PAUL A. NELSON AND RICHARD J. A. BUGGS	
13 Utilizing next generation sequencing for evo-devo study of plant traits	264
RACHEL H. WALKER, PAULA J. RUDALL AND BEVERLEY J. GLOVER	
14 An NGS approach to archaeobotanical museum specimens as genetic resources in systematics research	282
OLIVER SMITH, SARAH A. PALMER, RAFAL GUTAKER AND ROBIN G. ALLABY	
15 From sequence reads to evolutionary inferences	305
JAMES A. COTTON	
Index	336
Colour plate section appears between pages [182] and [183].	