

Contents

Preface	vii
I. Perception and Measurements	
1. Color Perception	3
INNES C. CUTHILL	
2. Quantifying Colors	41
STAFFAN ANDERSSON AND MARIA PRAGER	
3. Analyzing Colors	90
ROBERT MONTGOMERIE	
4. Effects of Light Environment on Color Communication	148
MARC THÉRY	
II. Mechanisms of Production	
5. Mechanics of Carotenoid-Based Coloration	177
KEVIN J. MCGRAW	
6. Mechanics of Melanin-Based Coloration	243
KEVIN J. MCGRAW	
7. Anatomy, Physics, and Evolution of Structural Colors	295
RICHARD O. PRUM	

8. Mechanics of Uncommon Colors:
Pterins, Porphyrins, and Psittacofulvins 354

KEVIN J. MCGRAW

9. Cosmetic and Adventitious Colors 399

ROBERT MONTGOMERIE

III. Controls and Regulation of Expression

10. Hormonal Control of Coloration 431

REBECCA T. KIMBALL

11. Genetic Basis of Color Variation in Wild Birds 469

NICHOLAS I. MUNDY

12. Environmental Regulation of Ornamental Coloration 507

GEOFFREY E. HILL

Acknowledgments 561

Contributors 565

Species Index 569

Subject Index 581

Color illustrations follow p. 340