

R I C H A R D
D A W K I N S

F L I G H T S
of F A N C Y

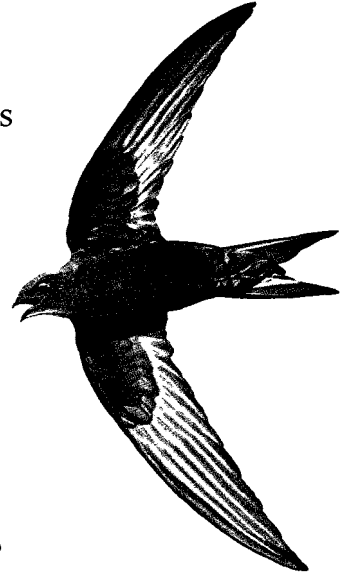
DEFYING GRAVITY
BY DESIGN & EVOLUTION

ILLUSTRATED BY
J A N A L E N Z O V Á



An Apollo Book

TABLE OF CONTENTS



CHAPTER 1 — 3

Dreams of Flying

CHAPTER 2 — 12

What is Flight Good for?

CHAPTER 3 — 47

If Flying is so Great,
Why do Some Animals Lose Their Wings?

CHAPTER 4 — 72

Flying is Easy if You Are Small

CHAPTER 5 — 89

If You Must Be Large and Fly,
Increase Your Surface Area Out of Proportion

CHAPTER 6 — 106
Unpowered Flight:
Parachuting and Gliding

CHAPTER 7 — 123
Powered Flight and How it Works

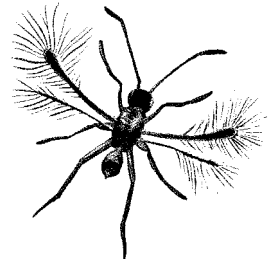
CHAPTER 8 — 144
Powered Flight in Animals

CHAPTER 9 — 173
Be Lighter Than Air

CHAPTER 10 — 193
Weightlessness

CHAPTER 11 — 203
Aerial Plankton

CHAPTER 12 — 215
'Wings' for Plants



CHAPTER 13 — 235

Differences Between Evolved and
Designed Flying Machines

CHAPTER 14 — 251

What is the Use of Half a Wing?

CHAPTER 15 — 273

The Outward Urge:
Beyond Flying

About the Author & Illustrator — 284

Acknowledgements — 286

Picture Credits — 287

Index — 288