

# Contents

## Part I Topics in Veterinary Pharmacology

|                                                                           |     |
|---------------------------------------------------------------------------|-----|
| <b>Introduction</b> .....                                                 | 3   |
| Fiona Cunningham, Jonathan Elliott, and Peter Lees                        |     |
| <b>Species Differences in Pharmacokinetics and Pharmacodynamics</b> ..... | 19  |
| Pierre-Louis Toutain, Aude Ferran, and Alain Bousquet-Mélou               |     |
| <b>Comparative and Veterinary Pharmacogenomics</b> .....                  | 49  |
| Carrie M. Mosher and Michael H. Court                                     |     |
| <b>Drug Delivery Systems in Domestic Animal Species</b> .....             | 79  |
| David J. Brayden, Emilie M. Oudot, and Alan W. Baird                      |     |
| <b>Population Medicine and Control of Epidemics</b> .....                 | 113 |
| Hafid Benchaoui                                                           |     |
| <b>Interspecies Allometric Scaling</b> .....                              | 139 |
| Robert P. Hunter                                                          |     |
| <b>Pain and Analgesia in Domestic Animals</b> .....                       | 159 |
| Alex Livingston                                                           |     |
| <b>New Technologies for Application to Veterinary Therapeutics</b> .....  | 191 |
| Jim E. Riviere                                                            |     |

**Part II The Interface of Veterinary Pharmacology and Man**

|                                                                                                                 |            |
|-----------------------------------------------------------------------------------------------------------------|------------|
| <b>Genetically Modified Animals and Pharmacological Research .....</b>                                          | <b>213</b> |
| Dominic J. Wells                                                                                                |            |
| <b>Antimicrobial Drug Resistance .....</b>                                                                      | <b>227</b> |
| Marilyn Martinez and Peter Silley                                                                               |            |
| <b>Drug Residues .....</b>                                                                                      | <b>265</b> |
| Philip T. Reeves                                                                                                |            |
| <b>Veterinary Medicines and the Environment .....</b>                                                           | <b>291</b> |
| Alistair B.A. Boxall                                                                                            |            |
| <b>Veterinary Medicines and Competition Animals: The Question<br/>of Medication Versus Doping Control .....</b> | <b>315</b> |
| Pierre-Louis Toutain                                                                                            |            |
| <b>Index .....</b>                                                                                              | <b>341</b> |