Contents

1 Introduction ........................................................................................................ 1
   Dale R. McCullough

Part I  Basic Biology

2 Fossil Record of Sika Deer in Japan ................................................................. 11
   Yoshinari Kawamura

3 Two Genetically Distinct Lineages of the Japanese Sika Deer
   Based on Mitochondrial Control Regions ....................................................... 27
   Junco Nagata

4 Evolutionary Significance of Admixture and Fragmentation
   of Sika Deer Populations in Japan ................................................................ 43
   Hidetoshi B. Tamate

5 Nutritional Physiology of Wild and Domesticated
   Japanese Sika Deer ..................................................................................... 61
   Takayoshi Masuko and Kousaku Souma

6 Endocrinology of Sika Deer ......................................................................... 83
   Kiyoshi Yamauchi and Yukiko Matsuura

7 Reproduction of Female Sika Deer in Japan, with Special
   Reference to Kinkazan Island, Northern Japan ..................................... 101
   Nobumasa Ohnishi, Masato Minami, Rie Nishiya,
   Kotoyo Yamada, Hiroyuki Nishizuka, Hiroshi Higuchi,
   Azusa Nara, Masatsugu Suzuki, and Seiki Takatsuki
Part II  Food and Habitat Relations

8  Food Habits of Sika Deer on Kinkazan Island, Northern Japan with Reference to Local Variations, Size Effects, and Comparison with the Main Island .......................................................... 113
   Seiki Takatsuki and U. K. G. K. Padmalal

9  Plants and Plant Communities on Kinkazan Island, Northern Japan, in Relation to Sika Deer Herbivory ........................................ 125
   Seiki Takatsuki and Takehiko Ito

10 Productivity and Foraging Efficiency of the Short-Grass (Zoysia japonica) Community for Sika Deer .............................. 145
    Takehiko Y. Ito, Mariko Shimoda, and Seiki Takatsuki

11 Home Range, Habitat Selection, and Food Habits of the Sika Deer Using the Short-Grass Community on Kinkazan Island, Northern Japan ................................................................. 159
    Takehiko Y. Ito and Seiki Takatsuki

12 Shift to Litterfall as Year-Round Forage for Sika Deer after a Population Crash ............................................................ 171
    Masami Miyaki and Koichi Kaji

13 The Dynamics of Forest Stands Affected by Sika Deer on Nakanoshima Island—Change of Size Structure Similar to the Thinning Effect ................................................................. 181
    Masami Miyaki and Koichi Kaji

14 Biology of Sika Deer in Hyogo: Characteristics of Reproduction, Food Habits, Growth, and Condition .............................. 193
    Mayumi Yokoyama

15 Bark-Stripping Preference of Sika Deer and Its Seasonality on Mt. Ohdaigahara, Central Japan ........................................... 207
    Masaki Ando and Ei’ichi Shibata

16 North-South Variations in Sika Deer Ecology as a Forest-Dwelling Cervid ................................................................. 217
    Seiki Takatsuki

17 Geographical Variations in Food Habits of Sika Deer: The Northern Grazer vs. the Southern Browser ............................. 231
    Seiki Takatsuki
18 What Is “Natural” Vegetation? A Reconsideration of Herbivory by Wild Ungulates ......................................................... 239
Seiki Takatsuki

Part III Behavior: Migration and Breeding Systems

19 Seasonal Migration of Sika Deer on Hokkaido Island, Japan ........ 251
Hiromasa Igota, Mayumi Sakuragi, and Hiroyuki Uno

20 Migratory and Sedentary Behavior Patterns of Sika Deer in Honshu and Kyushu, Japan .................................................. 273
Tsuneaki Yabe and Seiki Takatsuki

21 Variation in Mating Behavior of Sika Deer: Mating Behavior of Sika Deer on Nozaki Island ............................................. 285
Akira Endo

22 Reproductive Ecology of Sika Deer on Kinkazan Island, Northern Japan: Reproductive Success of Males and Multi-Mating of Females .................................................. 297
Masato Minami, Nobumasa Ohnishi, Ayumi Okada, and Seiki Takatsuki

23 Life-Time Reproductive Success of Female Sika Deer on Kinkazan Island, Northern Japan ............................................. 319
Masato Minami, Nobumasa Ohnishi, Naoko Higuchi, Ayumi Okada, and Seiki Takatsuki

24 Reproduction of Female Sika Deer in Western Japan ................. 327
Toru Koizumi, Shin-ichiro Hamasaki, Mayumi Kishimoto, Mayumi Yokoyama, Masato Kobayashi, and Aiko Yasutake

Color Plates

Part IV Population Dynamics and Management

25 Sika Deer in Nara Park: Unique Human-Wildlife Relations ....... 347
Harumi Torii and Shirow Tatsuzawa

26 A 20-Year History of Sika Deer Management in the Mt. Goyo Area, Northern Honshu .................................................. 365
Seiki Takatsuki
27 Survival Patterns of Male and Female Sika Deer on Kinkazan Island, Northern Japan .................................................. 375
Masato Minami, Nobumasa Ohnishi, and Seiki Takatsuki

28 Sika Deer in an Evergreen Broad-Leaved Forest Zone on the Boso Peninsula, Japan ............................................................... 385
Masahiko Asada and Keiji Ochiai

29 Sika Deer Population Irruptions and Their Management on Hokkaido Island, Japan ................................................................. 405
Hiroyuki Uno, Koichi Kaji, and Katsumi Tamada

30 Irruptive Behavior of Sika Deer ................................................. 421
Koichi Kaji, Hiroshi Takahashi, Hideaki Okada, Masao Kohira, and Masami Yamanaka

31 The Management of Sika Deer Populations in Hyogo Prefecture, Japan ................................................................. 437
Hiroshi Sakata, Shin-ichiro Hamasaki, and Hiromune Mitsuhashi

32 Management Strategy of Sika Deer Based on Sensitivity Analysis ................................................................. 453
Shingo Miura and Kunihiko Tokida

Part V Sika in Mainland Asia and Taiwan

33 Sika Deer in Russia ................................................................................ 475
Vladimir V. Aramilev

34 Sika Deer Distribution Changes at the Northern Extent of Their Range in the Sikhote-Alin Mountains of the Russian Far East ................................................................................................... 501
Inna V. Voloshina and Alexander I. Myslenkov

35 Sika Deer in Mainland China ............................................................... 521
Dale R. McCullough, Zhi-Gang Jiang, and Chun-Wang Li

36 Sika Deer in Korea and Vietnam .......................................................... 541
Dale R. McCullough

37 Sika Deer in Taiwan ............................................................................... 549
Dale R. McCullough

38 The Present Status of the Re-introduced Sika Deer in Kenting National Park, Southern Taiwan ........................................ 561
Kurtis Jai-Chyi Pei
Part VI  Introduced Sika Deer

39  Sika Deer in Continental Europe .................................................  573
    Luděk Bartoš

40  Sika Deer in the British Isles ....................................................  595
    Graeme M. Swanson and Rory Putman

41  Free–Ranging and Confined Sika Deer in North America:
    Current Status, Biology, and Management ..........................  615
    George A. Feldhamer and Stephen Demarais

42  The Sika in New Zealand ..........................................................  643
    D. Bruce Banwell

Index .................................................................................................  657
Sika Deer
Biology and Management of Native and Introduced Populations
McCullough, D.R.; Takatsuki, S.; Kaji, K. (Eds.)
2009, XX, 666 p. 274 illus., 50 illus. in color., Hardcover
ISBN: 978-4-431-09428-9