

Practical Handbook of Falcon Husbandry and Medicine

Table of Contents:

Preface

Chapter 1: Introduction pp. 1-11

- 1.1 Introduction
- 1.2 History of falconry
 - 1.2.1 Historical sources of falconry
 - 1.2.2 Falconry in the Middle East
- 1.3 Development of Falcon Medicine
 - 1.3.1 Early Times of Falcon Medicine
 - 1.3.2 Falcon medicines treatises in the Medieval Times
 - 1.3.3 Falcon treatment in the Medieval Times
 - 1.3.4 Falcon medicine in the 20th and 21st century
- 1.4 Conclusion

Chapter 2: Species Information pp. 13-31

- 2.1 Introduction
- 2.2 Raptor anatomy
- 2.3 Species and Age Differences of Falcons
 - 2.3.1 Lanner falcon (*F. biarmicus*)
 - 2.3.2 Peregrine falcon (*F. peregrinus*)
 - 2.3.3 Barbary falcon (*F. peleginoides*)
 - 2.3.4 Saker falcons (*F. cherrug*)
 - 2.3.5 Gyrfalcon (*F. rusticolus*)
 - 2.3.6 Hybrid falcons
 - 2.3.7 Differentiation of *Falco* spp. juveniles from adults
- 2.4 Other raptors used for falconry
 - 2.4.1 *Accipiter gentilis*
 - 2.4.2 Harris Hawk (*Parabuteo unicinatus*)
 - 2.4.3 Golden Eagle (*Aquila chrysaetos*)
- 2.5 Conclusion

Chapter 3: Falcon husbandry pp. 33-49

- 3.1 Introduction
- 3.2 Housing and equipments
 - 3.2.1 Housing and falcon facilities
 - 3.2.2 Equipment
 - 3.2.3 Tethering
 - 3.2.4 Transport
- 3.3 Nutrition
 - 3.3.1 Well-balanced diet for falcons
 - 3.3.2 Preparation of fresh food
 - 3.3.3 Preparation of frozen food
 - 3.3.4 Nutritional values and vitamin content of different food
 - 3.3.5 Water
 - 3.3.6 Casting
 - 3.3.7 Rangles
- 3.4 Hygiene and Disinfection
 - 3.4.1 Falcon facilities screening
 - 3.4.2 Short guidelines for conducting of facility screenings

3.5 Conclusion

Chapter 4: Molting pp. 51-67

- 4.1 Introduction
- 4.2 General information about molting in falcons
- 4.3 Pre-molting examinations
- 4.4 Husbandry during molting
 - 4.4.1 Housing
 - 4.4.2 Feeding
 - 4.4.3 Vitamin supplements
 - 4.4.4 Light management
 - 4.4.5 Control of the molting process
- 4.5 Successful release of groups in molting aviaries
- 4.6 Post-molting examination
- 4.7 Molting disorders
- 4.8 Conclusion

Chapter 5: First Aid pp. 69-88

- 5.1 Introduction
- 5.2 General Information about Emergencies in Falcons
 - 5.2.1 Priorities in First Aid Management
 - 5.2.2 First Aid Kit
- 5.3 Emergency situation requiring First Aid Treatment
 - 5.3.1 Shock
 - 5.3.2 Management of wounds and injuries
 - 5.3.2.1 Wounds
 - 5.3.2.2 Injuries
 - 5.3.2.3 Fractures
 - 5.3.2.4 Miscellaneous emergencies
- 5.4 Conclusion

Chapter 6: Clinical examination, sampling and medical procedures pp. 89-121

- 6.1 Introduction
- 6.2 Clinical History
- 6.3 Restraint
 - 6.3.1 Manual Restraint
 - 6.3.2 Chemical restraint
- 6.4 Routine examinations and sample taking
 - 6.4.1 General examination
- 6.5 Advanced examination
 - 6.5.1 Radiography
 - 6.5.2 Endoscopy
- 6.6 Pre-purchase examination
- 6.7 Application of medicines
- 6.8 Conclusion

Chapter 7: Laboratory examinations pp. 123-139

- 7.1 Introduction
- 7.2 Parasitological examinations
- 7.3 Laboratory blood examination
 - 7.3.1 Hematology
 - 7.3.2 Biochemistry
 - 7.3.3 Blood gas

- 7.4 Cytology
- 7.5 Microbiology
- 7.6 Conclusion

Chapter 8: Imping and coping pp. 141-155

- 8.1 Introduction
- 8.2 Preparation for feather repair
 - 8.2.1 Equipment
 - 8.2.2 Feathers
 - 8.2.3 Preparation of the falcon
- 8.3 Splinting
- 8.4 Imping
 - 8.4.1 Mid-shaft or distal feather repair
 - 8.4.2 Proximal feather repair
 - 8.4.3 Broken blood feathers
- 8.5 Coping
- 8.6 Beak repair
- 8.7 Conclusion

Chapter 9: Feather and skin problems pp. 157-190

- 9.1 Introduction
- 9.2 Feather problems
 - 9.2.1 Bacterial infections of feathers
 - 9.2.2 Fungal infections of feathers
 - 9.2.3 Feather lice
 - 9.2.4 Vitamin deficiencies
- 9.3 Skin problems and diseases
 - 9.3.1 Fungal skin infections
 - 9.3.2 Bacterial skin infections
 - 9.3.3 Wing eczemas
 - 9.3.4 Cutaneous tuberculosis
- 9.4 Pododermatitis
 - 9.4.1 Bumblefoot research in the 20th century
 - 9.4.2 Etiology
 - 9.4.2.1 Exogenous factors
 - 9.4.2.2 Endogenous factors
 - 9.4.2.3 Infectious factors
 - 9.4.2.4 Climatic factors
 - 9.4.3 Diagnosis of different foot conditions
 - 9.4.3.1 Pressure sores
 - 9.4.3.2 Hyperkeratosis
 - 9.4.3.3 Reddening of the foot sole
 - 9.4.3.4 Scab
 - 9.4.3.5 Pododermatitis
 - 9.4.3.6 Bumblefoot due to metabolic problems
 - 9.4.4 Therapy
 - 9.4.4.1 Conservative treatment
 - 9.4.4.2 Surgical treatment
 - 9.4.4.3 Prevention of foot problems
- 9.5 Conclusion

Chapter 10: Parasitic diseases pp. 191-122

- 10.1 Introduction

- 10.2 Ectoparasites
 - 10.2.1 Mallophaga
 - 10.2.2 Diptera
- 10.3 Endoparasites
 - 10.3.1. Protozoa
 - 10.3.1.2 Trichomoniasis
 - 10.3.1.2 Giardia
 - 10.3.1.3 Coccidia
- 10. Helminths
 - 10.4.1 Trematoda (flukes)
 - 10.4.2 Cestoda (tapeworms)
 - 10.4.3 Nematoda (roundworms)
 - 10.4.3.1 Ascaridia
 - 10.4.3.2 Capillaria
 - 10.4.3.3 Serratospiculum
 - 10.4.3.4 Syngamus trachea
- 10.5 Blood Parasites
 - 10.5.1 Plasmodium
 - 10.5.2 Haemoproteus
 - 10.5.3 Leukozytozoon
 - 10.5.4 Babesia
- 10.6 Emerging Diseases
 - 10.6.1 Microsporidiosis caused by Enterocytozoon bienersi
 - 10.6.2 Cryptosporidia
 - 10.6.3 Mosquito-borne parasitoses
- 10.7 Conclusion

Chapter 11: Fungal diseases pp. 223-242

- 11.1 Introduction
- 11.2 Aspergillosis
 - 11.2.1 Etiology, distribution and transmission
 - 11.2.2 Identification
 - 11.2.3 Symptoms and clinical manifestation
 - 11.2.4 New Aspergillosis Classification
 - 11.2.4.1 New Aspergillosis
 - 11.2.4.2 Active Aspergillosis
 - 11.2.4.3 Old Aspergillosis
 - 11.2.4.4 Syringeal Aspergillosis
 - 11.2.4.5 Cutaneous Aspergillosis
 - 11.2.5 Therapy
 - 11.2.5.1 Treatment of New Aspergillosis
 - 11.2.5.2 Treatment of Active Aspergillosis
 - 11.2.5.3 Treatment of Syringeal Aspergillosis
 - 11.2.5.4 Cutaneous Aspergillosis
 - 11.2.5.5 Preventive Aspergillosis treatment
- 11.3 Candidiasis
- 11.4 Conclusion

Chapter 12: Bacterial Infections pp. 243-261

- 12.1 Introduction
- 12.2 Escherichia Coli
- 12.3 Clostridium spp
 - 12.3.1 Clostridium perfringens

- 12.3.2 Clostridium botulinum infections
- 12.4 Pseudomonas aeruginosa
- 12.5 Chlamydophilosis
- 12.6 Avian Tuberculosis (Mycobacteriosis)
- 12.7 Salmonellosis
- 12.8 Klebsiella pneumoniae Infections
- 12.9 Mycoplasma
- 12.10 Staphylococcus
- 12.11 Conclusion

Chapter 13: Viral Diseases pp. 263-284

- 13.1 Introduction
- 13.2 Avian Influenza Virus
 - 13.2.1 Etiology, distribution and transmission
 - 13.2.1.1 Ways of spreading the Avian Influenza Virus
 - 13.2.1.2 Relation of wild bird migration and AI outbreaks in domestic poultry
 - 13.2.1.3 Special factors for Avian Influenza spreading in Europe, Caucasus and Middle East
 - 13.2.1.4 Preventive measures and surveillance of Avian Influenza
 - 13.2.1.5 Avian Influenza cases in falcons and raptors
- 13.3 Newcastle Disease virus
- 13.4 Avian Pox Virus
- 13.5 Herpes Virus
- 13.6 Avian Reovirus
- 13.7 Adenovirus
- 13.8 Other viral diseases in falcons and raptors
- 13.9 Conclusion

Chapter 14: Orthopedic problems and surgery pp. 285-307

- 14.1 Introduction
- 14.2 First Examination
- 14.3 Perioperative fracture management
- 14.4 Surgical Intervention
 - 14.4.1 Anesthesia
 - 14.4.2 Surgery preparation
 - 14.4.3 Open fracture repair
 - 14.4.4 Closed fracture repair
 - 14.4.5 External fixation
 - 14.4.6 Radiography
 - 14.4.7 Bandaging
- 14.5 Postoperative fracture management
 - 14.5.1 Immediate post surgical management
 - 14.5.2 Post-surgical management
 - 14.5.3 Housing and husbandry
 - 14.5.4 Postoperative feeding
- 14.6 Non Surgical and Surgical Fracture Management
 - 14.6.1 Fractures of the thoracic girdle
 - 14.6.2 Fractures of the humerus
 - 14.6.3 Fractures of radius and ulna
 - 14.6.4 Fractures of the carpometacarpus
 - 14.6.5 Fractures of the femur
 - 14.6.6 Fractures of the tibiotarsus
 - 14.6.7 Fracture of the tarsometatarsus
 - 14.6.8 Fractures of the phalanges

- 14.7 Other orthopedic problems
- 14.7.1 Osteomyelitis
- 14.7.2 Luxation/subluxation
- 14.7.3 Amputation of digits
- 14.8 Conclusion

Chapter 15: Soft tissue problems and surgeries pp. 309-332

- 15.1 Introduction
- 15.2 Preparation for surgery
- 15.2.1 Anesthesia and perioperative preparation of the patient
- 15.2.2. Skin preparation and disinfection
- 15.3 Postoperative wound management
- 15.3.1 Bandaging
- 15.3.2 Medication
- 15.3.3 Feeding
- 15.4 Specific surgery methods
- 15.4.1 Lesions in the choana
- 15.4.2 Infraorbital surgery of Trichomonas/Pseudomonas aeruginosa lesions
- 15.4.3 Crop surgeries
- 15.4.4 Keel surgery
- 15.4.5 Injuries of the proptagium
- 15.4.6 Soft tissue injuries of falcons being attacked by other falcons
- 15.4.7 Injuries of the head
- 15.4.8 Injuries of the leg
- 15.4.9 Abscesses
- 15.4.10 Injuries through ingrown rings
- 15.4.11 Injuries through jesses
- 15.5 Conclusion

Chapter 16: Intensive care pp. 333-346

- 16.1 Introduction
- 16.2 ABC for critically sick falcons
- 16.3 Examination of critically sick falcons
- 16.4 Fluid administration scheme
- 16.5 Medication
- 16.6 Shock
- 16.7 Housing of critically sick falcons
- 16.8 Feeding of critically sick falcons
- 16.8.1 Conditions requiring tube feeding
- 16.8.2 Tube feeding
- 16.8.3 Feeding Scheme
- 16.8.3.1 Liquid food
- 16.8.3.2 Solid food
- 16.9 Conclusion

Chapter 17: Miscellaneous pp. 347-371

- 17.1 Introduction
- 17.2 Sour crop
- 17.3 Intoxications
- 17.3.1 Lead intoxication
- 17.3.2 Ammonium chloride intoxication (Shenadra)
- 17.4 Kidney diseases
- 17.5 Liver diseases

- 17. 6 Pancreas
- 17.7 Eye problems
- 17.8 Miscellaneous diseases
 - 17.8.1 Central nervous system
 - 17.8.2 Bilateral traumatic paresis of the feet
 - 17.8.3 Hereditary conditions
- 17.9 Conclusion

Appendix

Formulary pp. 373-380

Index