Table of Contents

ANATOMY, GENETICS, NEUROLOGY, DISEASE, AND EVOLUTION.

The Anatomy of the Canine Nose.

Wiring of the Olfactory System and the Functional Role of Neurons and Glia during Lifelong Turnover.

Olfaction and the Canine Brain. Genetics of Canine Olfaction.

Effects of Disease on Canine Olfaction.

Olfaction in Wild Canids and Russian Canid Hybrids.

CHEMISTRY AND AERODYNAMICS OF ODORS.

The Development of Gas Chromatography/Mass Spectrometry and Its Uses in Odor Analysis.

Aerodynamics of Odor Plumes and Odor Plume Structures in Different Habitats.

The Practical and Legal Significance of the Chemical Analysis of Odor in Relation to Canine Forensic and Judicial Evidence.

BEHAVIOR, LEARNING, AND TRAINING.

Canine Olfactory Learning and Behavior.

Training Considerations in Wildlife Detection. Training Fundamentals and the Selection of Dogs and Personnel for Detection Work.

Training a Statistically Superior Scent Discrimination Canine: Where Trainer Wisdom Meets Scientific Validation.

Statistically Reliability Confounders and Improvement in Advanced Dog Training: Patterns, Routines, Targets, Alerts, Distractors, Reinforcement, and Other Issues.

USES IN FORENSICS AND LAW.

Canine Drug-Detection Evidence: Admissibility, Canine Qualifications, and Investigative Practices.

Cadaver Detection in Forensic Anthropology and Criminology: An Overview with Personal Notes.

Detection of Cocaine on Currency.

Narcotic and Explosive Odors: Volatile Organic Compounds as Training Aids for Olfactory Detection.

Scent Lineups: Variables in Procedures and Statistical Verification.

How US Courts Deal with the "Black Box" of Canine Scent Identification.

USES IN CONSERVATION AND REMEDIATION.

Trained Dogs in Insect Detection.

Detection Dogs in Strategies for Eradicating Pest Species from Natural Environments.

Canine Biodetection in Conservation, Eradication, and Border Protection: A Regulatory Perspective.

USES IN DETECTION OF DISEASES AND MEDICAL CONDITIONS.

Detection of Human Cancer by Dogs.

Medical Alerting to Seizures, Glycemic Changes, and Migraines: Significance of Untrained Behaviors in Service Dogs.