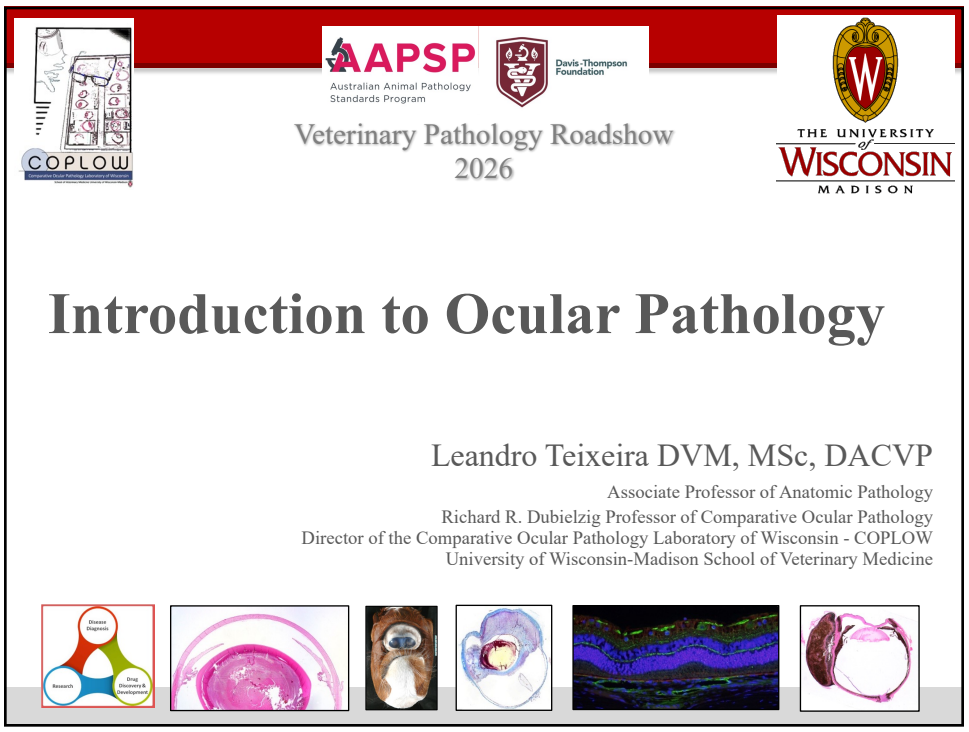
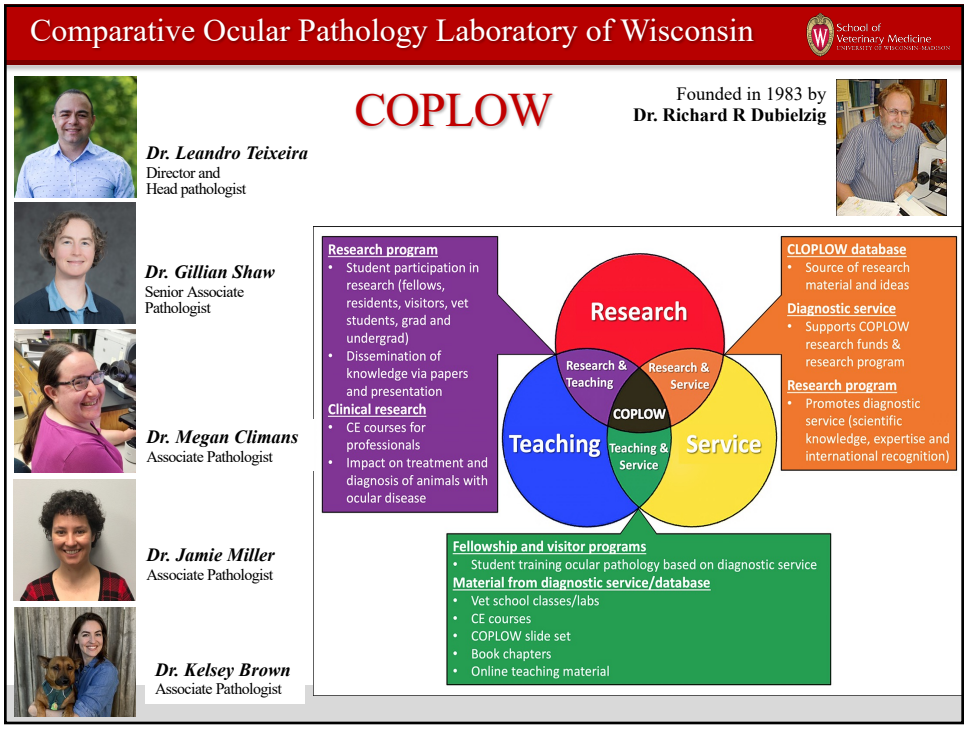

COPLOW
AAPSP
Australian Animal Pathology Standards Program
Davis-Thompson Foundation
Veterinary Pathology Roadshow
2026
THE UNIVERSITY of WISCONSIN MADISON
Introduction to Ocular Pathology
Leandro Teixeira DVM, MSc, DACVP
Associate Professor of Anatomic Pathology
Richard R. Dubielzig Professor of Comparative Ocular Pathology
Director of the Comparative Ocular Pathology Laboratory of Wisconsin - COPLOW
University of Wisconsin-Madison School of Veterinary Medicine

1


Comparative Ocular Pathology Laboratory of Wisconsin
School of Veterinary Medicine
COPLOW
Founded in 1983 by
Dr. Richard R Dubielzig
Dr. Leandro Teixeira
Director and
Head pathologist
Dr. Gillian Shaw
Senior Associate
Pathologist
Dr. Megan Climans
Associate Pathologist
Dr. Jamie Miller
Associate Pathologist
Dr. Kelsey Brown
Associate Pathologist
Research program
Student participation in research (fellows, residents, visitors, vet students, grad and undergrad)
Dissemination of knowledge via papers and presentation
Clinical research
CE courses for professionals
Impact on treatment and diagnosis of animals with ocular disease
Research
Research & Teaching
Research & Service
COPLOW
Teaching
Teaching & Service
Service
CLOPLOW database
Source of research material and ideas
Diagnostic service
Supports COPLOW research funds & research program
Research program
Promotes diagnostic service (scientific knowledge, expertise and international recognition)
Fellowship and visitor programs
Student training ocular pathology based on diagnostic service
Material from diagnostic service/database
Vet school classes/labs
CE courses
COPLOW slide set
Book chapters
Online teaching material

2

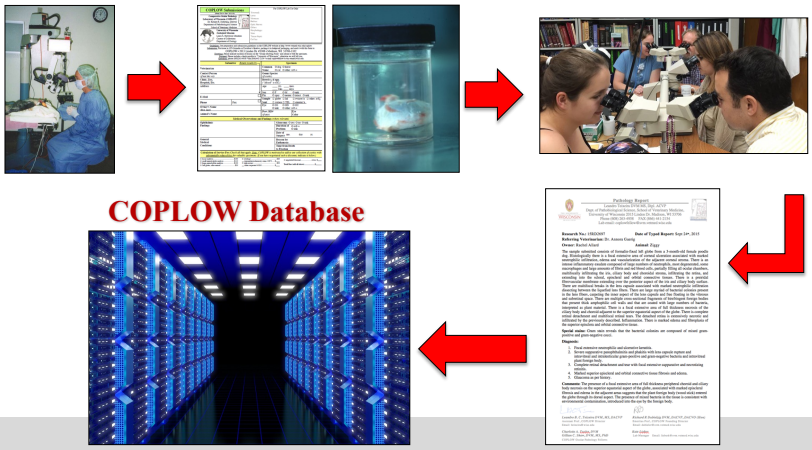
COPLOW's mission

School of Veterinary Medicine

Diagnostic Ocular Pathology

Clinical Service for Veterinarians

Mail-in Eye Pathology Service



3

COPLOW's mission

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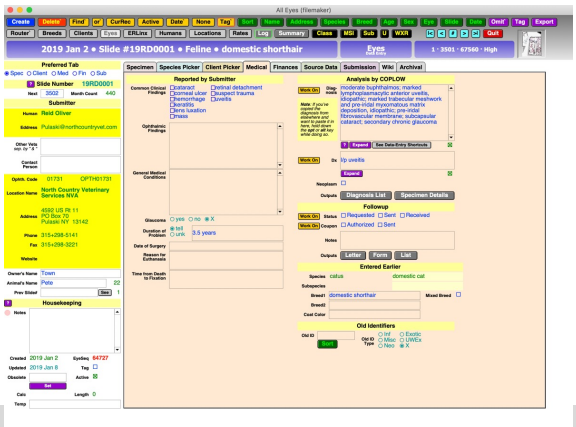
COPLOW Database

All cases are retrievable digitally

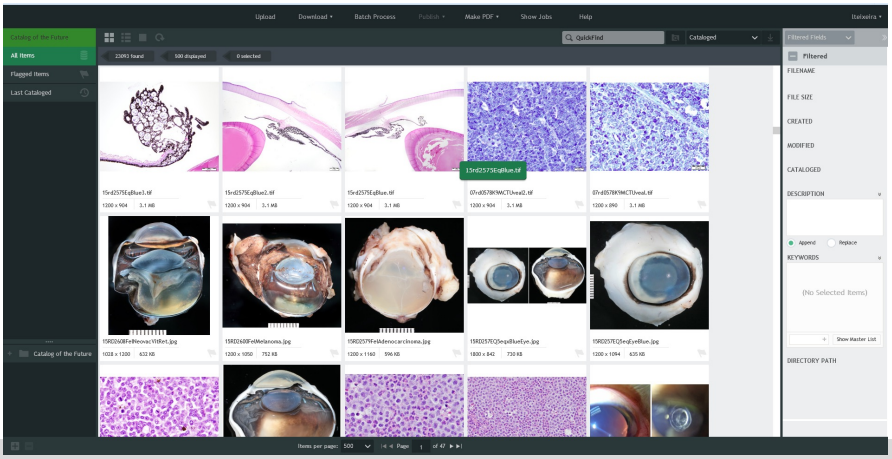
- Clinical and diagnostic information
- Histologic slides
- Paraffin blocks



4

Image Database

- > 70,000 images
- Macroscopic, microscopic and clinical images



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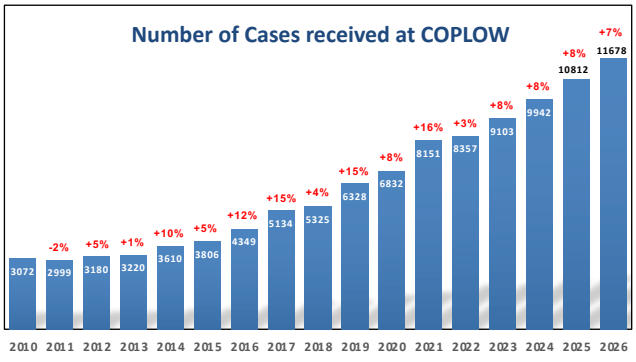
COPLOW's mission

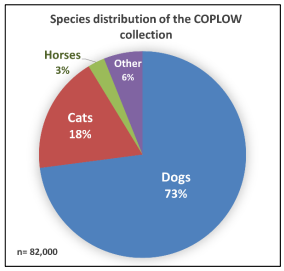
Diagnostic Ocular Pathology

≅ 130,000 total cases



- 70% Globes (enucleations)
- 27% Biopsies (ocular /periocular)
- 3% Eviscerations

- Neoplastic 35% cases
- Glaucoma 30% cases
- Trauma



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Ocular Pathology for Pathologists

- **Subspecialization**
  - Residency + fellowship training (or personal interest)
  - Market's economic reality
  - Higher Accuracy (?):
    - Deep expertise leads to fewer diagnostic errors in complex or rare cases
  - Better Clinical Communication:
    - Pathologists work closely as direct partners with specialized clinical and surgical teams
  - Research and drug development opportunities

7

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Barriers of Entry for Ocular Pathology

- Familiarization with ocular microscopic anatomy and species differences.
  - Ocular anatomy is readily accessible clinically
    - Direct correlation with pathology
- Ophthalmology terminology
  - Communication between pathologists and clinicians
- Basic understanding of clinical ophthalmology
  - Surgical procedures and lesion relevance clinicopathologic correlations
- Histologic tissue processing
  - Technical dificulties with processing eyes

8

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Barriers of Entry for Ocular Pathology

- In General opthalmologists are interested in:
  - Cause of Glaucoma (1 vs 2ary)
  - Neoplasia
  - OMSD?
  - Prognosis for other eye and patient

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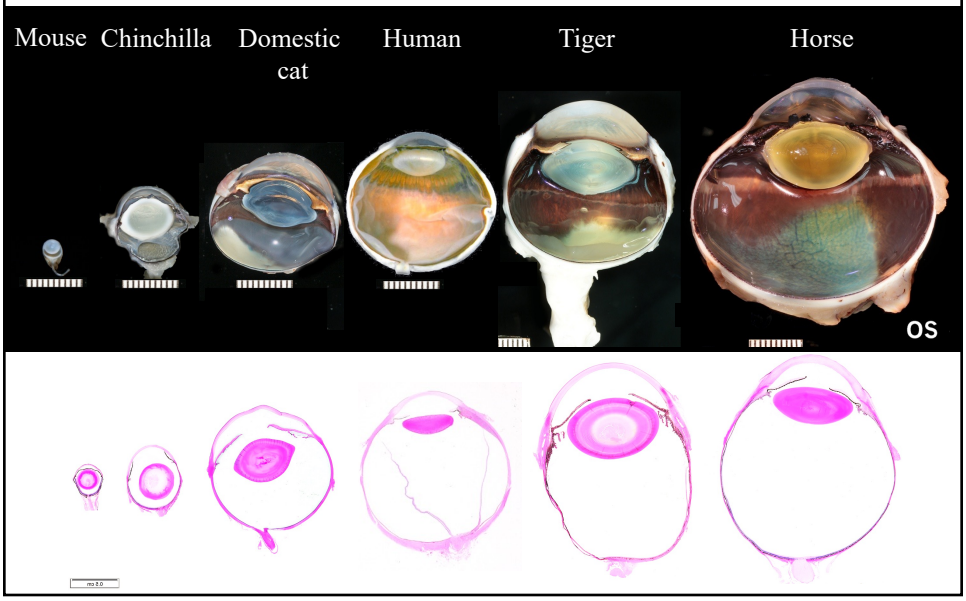
Ocular microscopic anatomy and species differences



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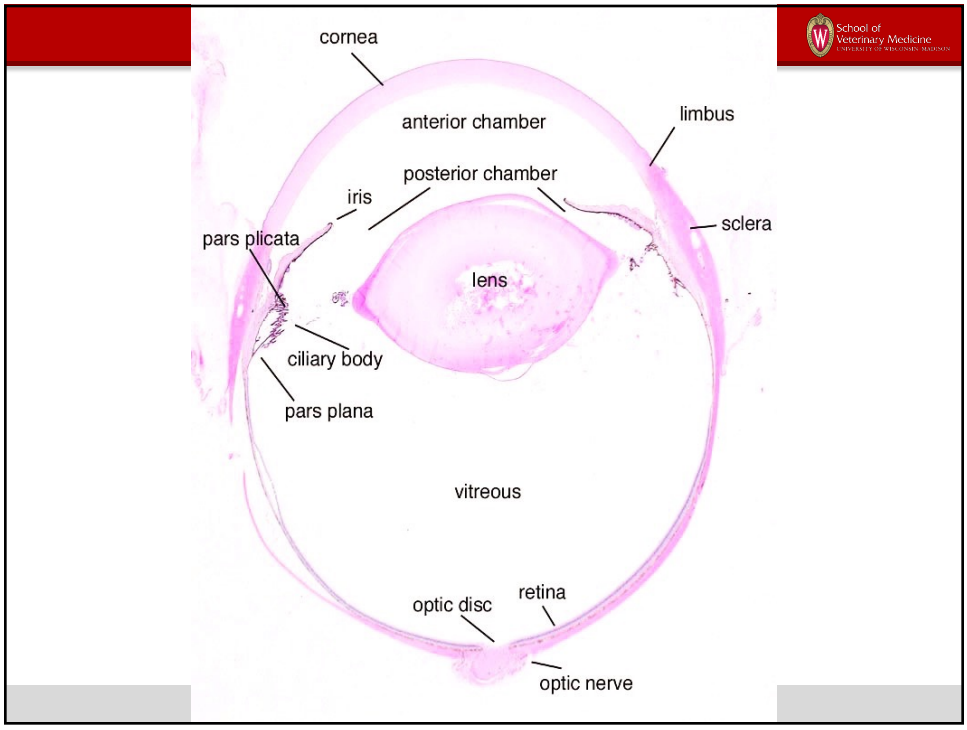
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cornea
anterior chamber
limbus
posterior chamber
iris
sclera
pars plicata
lens
ciliary body
pars plana
vitreous
optic disc
retina
optic nerve

11


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Direct Clinicopathological Correlation
Ocular anatomy is readily accessible clinically
C
P
Pc
Iris
Pupil

12

Direct Clinicopathological Correlation

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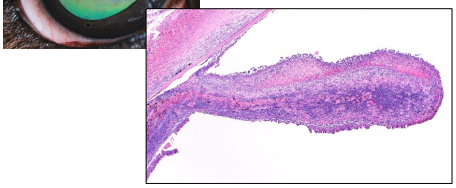
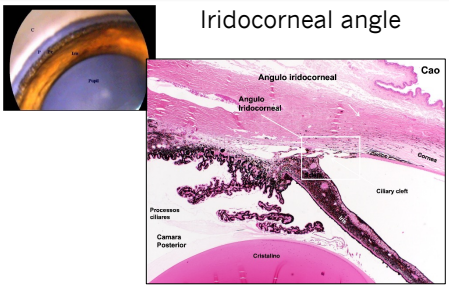
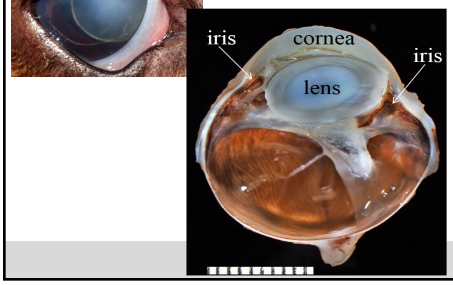
Asynchronous uveitis



Iridocorneal angle



Lens luxation



Optic nerve cupping

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Ophthalmologic terminology

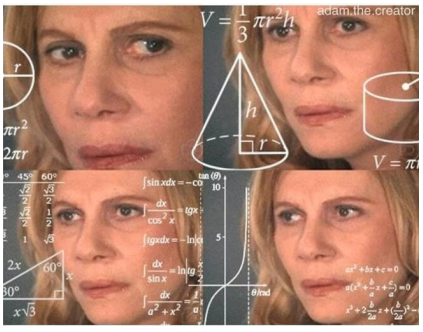
Communication between pathologists and clinicians

Ophthalmoplegia

anisocoria

Hyphema

Descemetocele



Buphthalmos

Aqueous flare

Corectopia

Haab's stria

Phacoclastic

Coloboma

Iris bombe

Xerophthalmia

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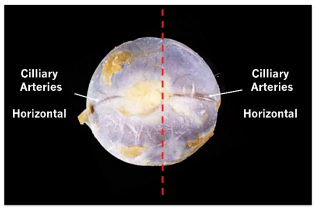
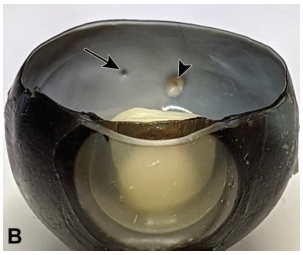
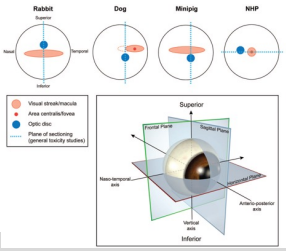
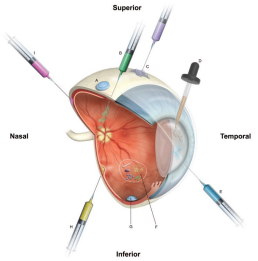
Tissue Processing

Technical dificulties with processing eyes









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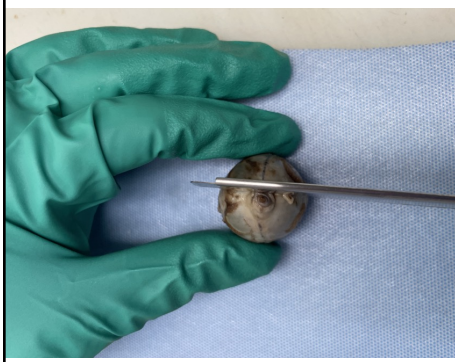
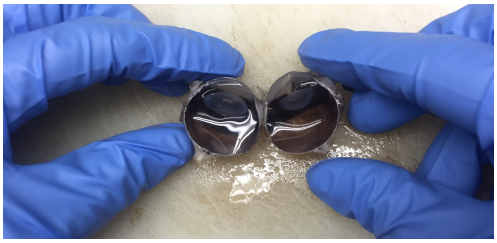
Tissue Processing

Trimming





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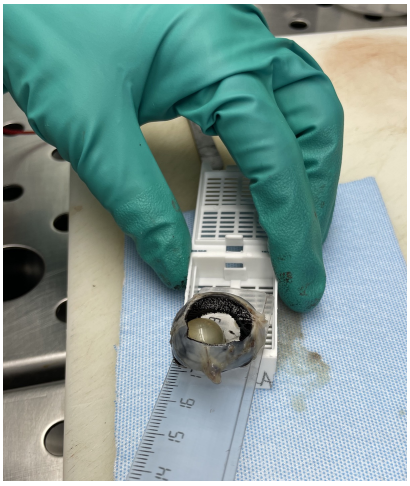
Tissue Processing

Trimming



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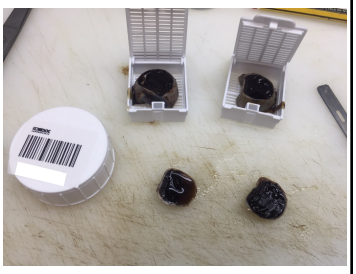
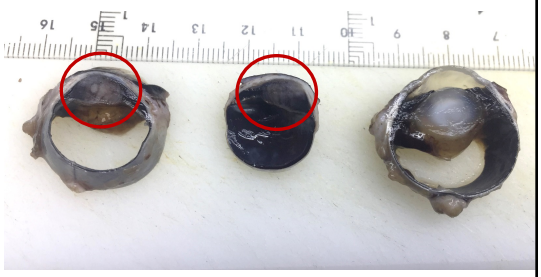
Tissue Processing

Trimming





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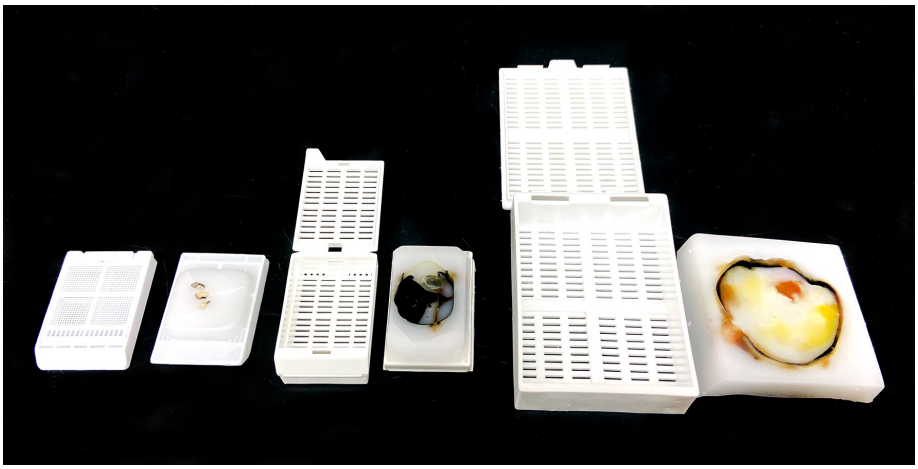
Cassettes and Blocks



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Cassettes and Blocks

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https://www.vetmed.wisc.edu/lab/coplow/
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Who are we?
COPLOW stands for Comparative Ocular Pathology Laboratory of Wisconsin. Our goal is to provide a prompt and accurate diagnosis for veterinarians and veterinary ophthalmologists around the world and to advance research for ocular disease in animals.
Learn more
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How to submit a sample
Submission form
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COPLOW
The Comparative Ocular Pathology Laboratory of Wisconsin
NEWSLETTER
September 2022
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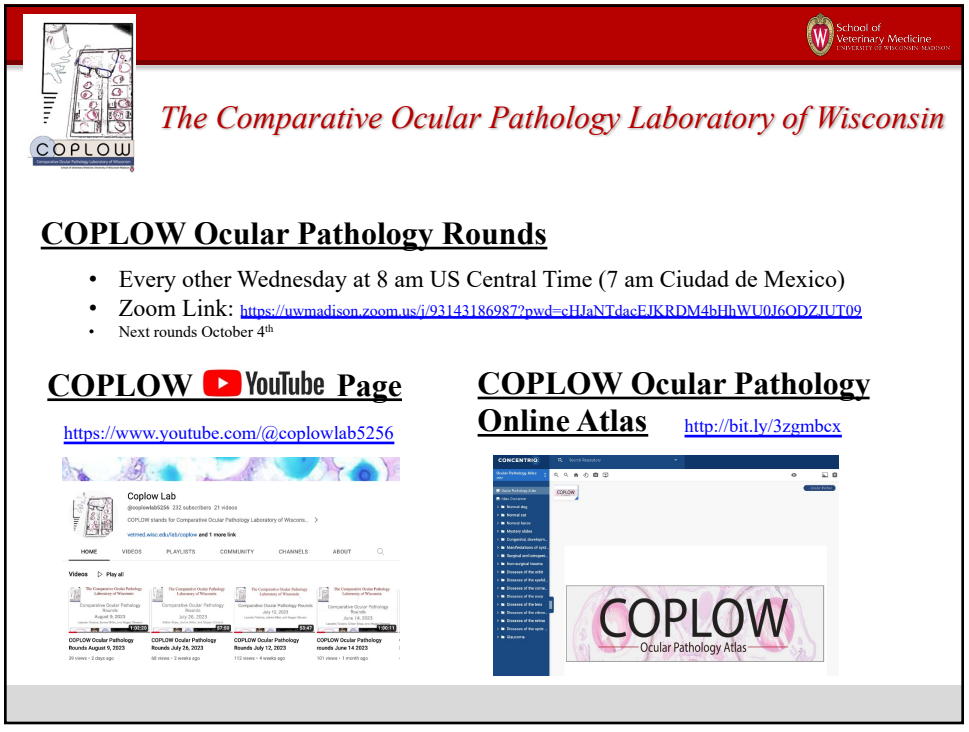
School of Veterinary Medicine
COPLOW
The Comparative Ocular Pathology Laboratory of Wisconsin
COPLOW Ocular Pathology Rounds
Every other Wednesday at 8 am US Central Time (7 am Ciudad de Mexico)
Zoom Link: https://uwmadison.zoom.us/j/93143186987?pwd=cHJaNTdacEJKRDM4bHhWU0J6ODZJUT09
Next rounds October 4th
COPLOW YouTube Page
https://www.youtube.com/@coplowlab5256
Coplow Lab
COPLOW Ocular Pathology Online Atlas
http://bit.ly/3zgmbcx
COPLOW
Ocular Pathology Atlas

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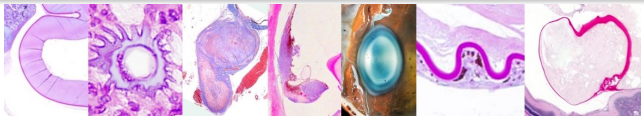
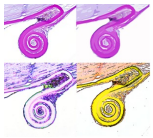
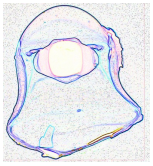
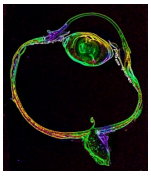
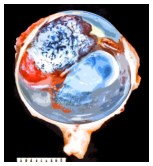


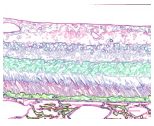


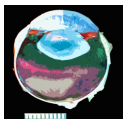
Questions?

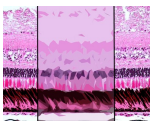


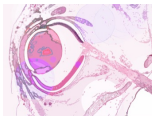












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