ACTIVITIES REPORT
REGISTRY OF TUMORS IN LOWER ANIMALS

1965 - 1973

JOHN C. HARSHBARGER, DIRECTOR

MAILING ADDRESS:
REGISTRY OF TUMORS IN LOWER ANIMALS
NATIONAL MUSEUM OF NATURAL HISTORY
ROOM W-216A
SMITHSONIAN INSTITUTION
WASHINGTON, D.C. 20560
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ESTABLISHMENT, OBJECTIVES, AND OPERATION

The Registry of Tumors in Lower Animals was begun in 1965 as a cooperative project between the National Cancer Institute (Contract No. NO1-CB-33874) and the Smithsonian Institution to study tumors in invertebrate and poikilothermic vertebrate animals. Objectives are: (1) to collect, identify, characterize, and preserve specimens with neoplasms and related disorders from natural habitats, zoos, aquaria, and laboratory experiments; (2) to conduct and promote experimental studies of the nature, incidence, and etiology of these diseases; and, (3) to analyze, correlate, and disseminate pertinent published and unpublished information. As a result of such efforts, a number of benefits may accrue:

1. An improved understanding of the biology of cancer as it occurs at various levels of phylogeny.

2. Evidence concerning the question of whether certain animals may be exempt from cancer, and if so, why.

3. Evidence that may lead to discovery of new etiologic agents in cancer.

4. Evidence of carcinogens in the environment.

5. Evidence that may bear on certain theories of cancer: e.g., the oncogene theory, the clonal selection theory, the somatic mutation theory, and others.

6. Discovery of types of animals that may be useful in cancer research because of specific features such as differences in immunological complexity, unusual sensitivity or resistance to carcinogens, ability to concentrate certain elements, such as Hg, Cu, or Zn, genetic features influencing cancer rates, ability to reject tumors by autectomy, and so on.

7. Discovery of possible reservoirs or vectors of oncogenic viruses.

8. Identification and protection of populations in possible jeopardy from epizootic neoplasia.

9. Maintenance of a proper perspective among citizens concerned about the significance of reports of cancer among lower animals of economic importance.

After specimens with cryptogenic and induced lesions are received they are photographed, studied grossly and microscopically and stored for easy retrieval. An effort is made to determine the nature of the lesion or verify the diagnosis of the contributor, often after getting the opinion of one or more specialists for the type of animal or tissue involved. When specimens are received which appear to be good research models for furthering the understanding of neoplastic processes, research projects may be initiated by the Registry with the consent of the contributor.
PHYSICAL PLANT

Laboratory, storage, and office space occupies three rooms in the National Museum of Natural History, Smithsonian Institution, Tenth and Constitution Avenue, Northwest, Washington, D.C. In addition, the Registry has use of electron microscope, darkroom, and aquarium facilities. Library and duplication services are also available.

INFORMATION CONCERNING THIS REPORT

This report is cumulative for all accessions in the Registry's collection as of 5 December 1973. It supersedes earlier reports in that most cases previously listed as pending now have diagnoses and some cases have been reinterpreted following additional study. As a new feature, pertinent references are given for those accessions that have been specifically described in the literature or that exemplify a type of disease that has been the subject of a series of papers.

Additional information concerning selected unpublished cases can be made available on request. Persons interested in the comparative study of slides in the collection may either visit the Registry or request duplicate slides on short-term loan. Slides do not circulate from accessions that do not contain duplicate material; those that contain rare and irreplaceable material; and accessions that are being worked up for publication by the contributor. Anyone desiring to publish photographs from such comparative studies is expected to obtain permission from the contributor. Twenty sets of 20 slides each are available as instructional aides.

This report is being distributed to all contributors whose address is still known and to other persons who have expressed an interest in the work of the Registry and/or tumors in lower animals. It is also being sent to selected persons known to be studying diseases in various cold-blooded vertebrates and invertebrates for their possible interest in this peripheral field. Approximately 2,000 copies will be distributed.

DISTRIBUTION OF SPECIMENS IN THE COLLECTION

Specimens are accessioned individually except when groups of the same species having similar pertinent parameters (collecting site; type of disease; same experimental study, etc.) are received at the same time. We have been particularly fortunate that several collections of research material have been contributed en masse: e.g., RTLA 577 by Dr. William R. Duryee; RTLA 809 by Dr. Gladys S. King; and RTLA 443 by Miss Leora Stark, Mr. Douglas A. Stark, and Dr. James C. Dahl for Dr. Mary B. Stark.

As of 5 December 1973 there were 887 accessions in the collection distributed as follows:
The non-neoplastic lesions include infectious and parasitic granulomas, developmental anomalies, and injury and wound repair. Indeterminant lesions either have not been fully examined or the material is inadequate for diagnosis.

Among the accessions with neoplasms, additional diseased specimens can be field collected in the following cases:

<table>
<thead>
<tr>
<th>Animal</th>
<th>Neoplasm</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tiger salamander</td>
<td>Fibroma/papilloma</td>
<td>Southcentral USA</td>
</tr>
<tr>
<td>Cunner</td>
<td>Papilloma</td>
<td>Northeast USA</td>
</tr>
<tr>
<td>White croaker</td>
<td>Papilloma</td>
<td>California, USA</td>
</tr>
<tr>
<td>Atlantic eel</td>
<td>Papilloma</td>
<td>Europe</td>
</tr>
<tr>
<td>Various flatfish</td>
<td>Papilloma</td>
<td>Western USA</td>
</tr>
<tr>
<td>Rock oyster</td>
<td>Papilloma</td>
<td>Australia</td>
</tr>
<tr>
<td>American oyster</td>
<td>Hematopoietic neoplasm</td>
<td>Eastern USA</td>
</tr>
<tr>
<td>Leopard frog</td>
<td>Renal adenocarcinoma</td>
<td>Northeast/Northcentral USA</td>
</tr>
<tr>
<td>Green turtle</td>
<td>Fibroma</td>
<td>Hawaii/Caribbean</td>
</tr>
<tr>
<td>Northern pike</td>
<td>Lymphosarcoma</td>
<td>Europe/North America</td>
</tr>
<tr>
<td>Various catfish</td>
<td>Papilloma/carcinoma</td>
<td>USA</td>
</tr>
<tr>
<td>Yellowfin goby</td>
<td>Papilloma</td>
<td>Japan/Korea</td>
</tr>
<tr>
<td>Goldfish</td>
<td>Fibroma</td>
<td>USA</td>
</tr>
<tr>
<td>Muskellunge</td>
<td>Lymphoma</td>
<td>North America</td>
</tr>
</tbody>
</table>

SUBMITTING SPECIMENS

We invite you to help in building this collection by submitting examples of induced or naturally occurring neoplasms, pre-neoplastic conditions, or indeterminate lesions of a presumptive neoplastic nature that require confirmation. As there is an indistinct boundary between
neoplastic disease and the process of inflammation, repair, and regeneration, examples of the latter processes are also useful to establish points of reference. If we prepare the material histologically, a set of slides will be returned to the contributor with our diagnosis.

Specimens are accepted alive, fixed, in blocks, and on slides. Frozen specimens are generally unsatisfactory for preparation of good histological material, but sometimes are useful when an infectious agent must be sought.

Many specimens arrive poorly fixed for the following reasons:

1. **Delay in fixation** - Specimens should be fixed immediately after death or when death is imminent since degeneration in some cells begins premortem. If a delay is unavoidable, specimens should be kept cool in the interim, BUT NOT FROZEN.

2. **Slow or incomplete penetration** - To remedy this we recommend:
   a. Always open body cavity or inject fixative;
   b. Either inject the fixative or preferably, make deep transverse incisions intermittently along the length of large tumors and organs. This is especially important for fixatives that penetrate slowly (e.g., 10 percent formalin);
   c. Use fixatives that penetrate rapidly (Bouin's works well for fish, Davidson's for marine mollusks, and Dietrich's [FAA] for insects);
   d. Remove air from the trachea of insects by subjecting them to negative pressure (vacuum chamber) while immersed in the fixative for as long as bubbles continue to appear; and,
   e. For electron microscopy submit bits of tissue, less than 2 mm in diameter, in glutaraldehyde.

3. **Insufficient volume of fixative** - A volume of chemical ten times the volume of the specimen is recommended.

**REPRINT LIBRARY**

A continuing project to assemble a complete library of reprints relating to neoplasms in invertebrates and poikilothermic vertebrate animals presently contains more than 2,500 reprints (see computer abstract form on next page) is nearing completion. Following final editing, searches will be made at a reasonable cost. **WE WILL NOT HONOR REQUESTS FOR XEROX COPIES OF REPRINTS.**
COMPUTER ABSTRACT FORM FOR REPRINT FILE

001: Author:
002: Date:
003: Title:
004: Journal information:
005: Serial number:

006: Review Antitumor agent Research Associated material Vector
007: Corresponding RTLA number:
008: Language (if not English):

009: Phylum: 013: Genus:
010: Class: 014: Species:
011: Order: 015: Strain:
012: Family:

016: Continent: 019: City/County
017: Country: 020: Habitat:
018: State/Province: F M E T

021: Neoplastic Borderline Tumor Hyperplastic Hypertrophy
Mutagenic Developmental anomaly Infectious Inflammation
Injury and repair Toxic Normal

022: Epithelial Nonepithelial

023: System of origin: Integumentary Skeletal Nervous Circulatory
Endocrine Digestive Excretory Reproductive Respiratory
Mesenchymal Sensory Muscular Hematopoietic

024: Organ of origin:

025: Cell of origin:

026: Diagnosis:
027: Transmission: Cell free extract Tissue homogenate
Graft Other:

028: Induced?
029: Invasive?
030: Metastasis?
031: Physiology:

032: Virus, RNA, DNA 036: Bacteria:
033: Chemical: 037: Protozoa:
034: Transplant/Graft: 038: Fungus:
035: Physical: Radiation 039: Parasite:
Trauma Temperature 040: Genetics:
Other:
While several research projects in cooperation with contributors are in early phases, the principal study has been on the nature, incidence, and etiology of epidermal carcinomas and papillomas in several populations of fish, under the auspices of the Committee on Comparative Oncology of the Union Internationale Contre le Cancer (UICC). This Committee is composed of eight scientists each of which, with a small work group, is making an in-depth study of one or two particular populations of lower animals with a significant incidence of a neoplastic disease. The purposes and objectives of this Committee have been described in detail by its Chairman (Dawe, C. J. Comparative Oncology and Environmental Carcinogens. UICC Bull. Cancer, 8(4): 2-3; Dec. 1970).

PAPERS WITH AVAILABLE COPIES


PAPERS IN PRESS


HIGHLIGHTS

Some significant discoveries pertaining to cold-blooded animal tumors during the last decade are listed below. Numerous examples of these and similar cases have been contributed to the Registry for which we are greatly appreciative.

1. The initial discovery of the carcinogenicity of aflatoxins resulted from the study of hepatomas in hatchery rainbow trout. For brief history and tumor characteristics see Ashley, Laurence M. Liver Cell Carcinoma in Rainbow Trout. Amer. J. Pathol., 72: 345-348; 1973.

2. The first fish neoplasms of central nervous system origin: (1) an olfactory neuroepithelioma in a bloater (RTLA 257); and (2) a retinoneuroblastoma in a croaker (RTLA 650). Since neuroepitheliomas can be induced in hamsters by a nitrosamine [Herrold, K. Cancer, 17: 114-121; 1964] perhaps nitrosamines are a significant environmental pollutant.

3. A lamprey with a metastatic melanoma (RTLA 89) is the most primitive vertebrate in which a malignant type neoplasm has been found.

4. A hematopoietic neoplasm in a sandbar shark (RTLA 523) is the only blood cell tumor in a Chondrichthyes.

5. New evidence that a herpes virus causes the Lucké renal adenocarcinoma in leopard frogs.


8. Experimental studies on the epizootic hematopoietic neoplasms in northern pike (RTLA 112) and muskellunge (RTLA 808) suggests a viral etiology.

9. Transplantable hematopoietic neoplasms in a Mexican axolotl (RTLA 506).

10. Transplantable invasive neuroblastomas and imaginal disk neoplasms in insects (RTLA 381-383).

11. Epizootic hematopoietic neoplasms in various oysters and mussels involving two cell types (RTLA 224, 225, 235, 502).

12. Papillomas and carcinomas in bullheads from selected Florida lakes (RTLA 288, 289, and numerous others in the collection).


15. The first discovery of adenomatous polyps of gastric mucosa in cold-blooded animals (RTLA 570, 571). These tumors were found in trout which also had hepatomas. Aflatoxin was absent from the diet so some other carcinogen must have been involved.

16. Papillomas (RTLA 550-553) and an ameloblastic odontoma (RTLA 675) in cunners.

17. The first smooth muscle neoplasm (leiomyosarcoma) in a reptile (RTLA 560).

18. Epizootic skin neoplasms in neotenic tiger salamanders in a sewage settling pond (RTLA 791, 792).


PERSONNEL

The Project Officer for the contract is Dr. Clyde J. Dawe, Head, Comparative Oncology Section, Laboratory of Pathology, National Cancer Institute, National Institutes of Health, Bethesda, Maryland, 20014.

The Principal Investigator for the contract is Dr. David L. Pawson, Chairman, Department of Invertebrate Zoology, National Museum of Natural History, Smithsonian Institution, Washington, D.C., 20560.

The Staff of the Registry is as follows:

Director - John C. Harshbarger
Registrar - Phyllis M. Schellenger
Histopathology Technician - Linda J. Cullen
Bibliographers - Judy E. Foster and Marilyn S. Slatick
A diagnosis or very brief description of the nature of the lesion is given in most cases. This description may be ours or the contributor's. The reprint cited is either a report on that specific case or a recent article in a series of pertinent articles.

RTLA 1. Planarian, *Dugesia dorotocephala*  
Material: Six slides; 12 photographs  
Diagnosis: Papilliform tumors and malformations  
Submitter: J. A. Foster  

RTLA 2. Earthworm, *Lumbricus terrestris*  
Material: Fifteen slides; 4 photographs  
Diagnosis: A large protruding mass containing spermatogonia and maturation phases of sperm occurring in an area that had received 14 daily paintings on the cuticle of a methylcholanthrene-acetone solution.  
Submitter: R. L. Hancock  

RTLA 3. *Drosophila melanogaster*  
Material: Five slides; 6 photographs  
Diagnosis: Hereditary ovarian tumors  
Submitter: R. C. King  

RTLA 4. Blue crab, *Callinectes sapidus*  
Material: One crab; 3 photographs; 40 slides; 2 paraffin blocks  
Diagnosis: Wound healing on dorsal cephalothorax  
Submitter: C. J. Dawe

RTLA 5. Mud clam, *Mya arenaria*  
Material: One siphon; 3 photographs; 17 slides with serial sections  
Diagnosis: Developmental anomaly of siphon  
Submitter: M. Potter and E. Kuff

RTLA 6. Striped bass, *Morone saxatilis*  
Material: Testes -- one with adjacent mass; 1 photograph; 1 slide  
Diagnosis: Spermatocele  
Submitter: F. Schwartz
RTLA 7. White sucker, *Catostomus commersoni*
   Material: Three fish; 3 slides
   Diagnosis: Cholangiocellular neoplasms; no evidence of metastases
   Submitter: C. J. Dawe, M. Stanton, and F. Schwartz
   Reprint: Dawe, Clyde J., Mearl F. Stanton, and Frank J. Schwartz.

RTLA 8. Brown bullhead, *Ictalurus nebulosus*
   Material: One fish; 2 slides
   Diagnosis: (1) Regenerative hepatic nodules
            (2) Minimal deviation hepatomas
   Submitter: C. J. Dawe and M. Stanton
   Reprint: [see RTLA 7]

   Material: Three slides; 1 photograph
   Diagnosis: Chronic inflammation -- foreign body reaction
   Submitter: C. J. Dawe

RTLA 10. Chain pickerel, *Esox niger*
   Material: Two slides
   Diagnosis: Pseudobranch (normal)
   Submitter: C. J. Dawe

RTLA 11. Goldfish, *Carassius auratus*
   Material: Two slides
   Diagnosis: Neurilemmoma
   Submitter: T. M. Scotti

RTLA 12. Green turtle, *Chelonia mydas*
   Material: Three bottles of wet tissue; 4 photographs; 2 slides
   Diagnosis: Fibropapillomas
   Submitter: G. H. Waddell

RTLA 13. Shark
   Material: Wet tissue; 4 slides; 2 photographs
   Diagnosis: (1) Subepicardial hemorrhages in association with lymphoid aggregates
            (2) Myocardial infestation by indeterminate organism -- possible sarcosporidia
   Submitter: R. F. Mathewson

RTLA 14. Largemouth bass, *Micropterus salmoides*
   Material: One fish; 1 slide; 4 photographs
   Diagnosis: Intra-epidermal nevus
   Submitter: C. J. Dawe

RTLA 15. Largemouth bass, *Micropterus salmoides*
   Material: One fish; 1 slide, 5 photographs
   Diagnosis: Ossifying fibroma
   Submitter: C. J. Dawe
RTLA 16. Largemouth bass, *Micropterus salmoides*
Material: One fish; 4 slides; 3 photographs
Diagnosis: Intraepithelial hyperpigmentation by numerous dendritic melanocytes in all layers of epidermis
Submitter: C. J. Dawe

RTLA 17. Dagger shrimp, *Palaemonetes pugio*
Material: One slide
Diagnosis: Metacercaria of *Microphallus turgida* infected with a haplosporidium, *Urosporidium fuliginosum*
Submitter: R. W. Heard

RTLA 18. Atlantic needlefish, *Strongylura marina*
Material: Sixteen heads of fish; 3 slides; photographs
Diagnosis: Chronic inflammation due to copepod parasites in the jaw
Submitter: J. M. Arnold

RTLA 19. Atlantic octopus, *Octopus vulgaris*
Material: One paraffin embedded block; 5 slides; 2 photographs
Diagnosis: Probable wound repair and hyperplasia in web area between the two anterior arms
Submitter: J. M. Arnold

RTLA 20. California sea mussel, *Mytilus californianus*
Material: Two slides
Diagnosis: Digestive gland lesions caused by haplosporidian parasites
Submitter: R. L. Taylor

RTLA 21. Gaper clam, *Tresus nuttalli*
Material: Two slides
Diagnosis: Inflammatory reaction of foot muscle; associated with unclassified microbes producing exophytic lesions
Submitter: R. L. Taylor and A. C. Smith

RTLA 22. Walleye, *Stizostedion vitreum vitreum*
Material: One fish; 14 slides
Diagnosis: Lymphocystis
Submitter: M. Stanton

RTLA 23. Chain pickerel, *Esox niger*
Material: Two slides
Diagnosis: Parasitic infestation of gills; unclassified protozoan
Submitter: C. J. Dawe
RTLA 24. White sucker, *Catostomus commersoni*
Material: One fish
Diagnosis: Ovarian cyst (non-neoplastic)
Submitter: M. Stanton

RTLA 25. Rainbow trout, *Salmo gairdneri*
Material: Three jars of gross specimens; 16 photographs
Diagnosis: Hepatoma
Submitter: C. E. Dunbar

RTLA 26. Drosophila melanogaster
Material: One block; 9 slides; 14 photographs
Diagnosis: Melanotic lesions involving fat body
Submitter: S. Ghelelovitch

RTLA 27. Spruce sawfly, *Diprion hercyniae*
Material: Twelve adults; 3 pupae; numerous midgut tumorlike bodies; 42 slides
Diagnosis: Polyhedral virus infection
Submitter: M. M. Neilson

RTLA 28. Greater wax moth, *Galleria mellonella*
Material: Three slides; 15 photographs
Diagnosis: Whorl formations in irradiated animals by hemocytes
Submitter: J. C. Harshbarger

RTLA 29. Sea lamprey, *Petromyzon marinus*
Material: Two pieces of skin; 10 slides
Diagnosis: Inflammation associated with bacterial infection
Submitter: L. N. Allison

RTLA 30. Planarian, *Dugesia dorotocephala*
Material: Four adult planarians; 66 slides; photographs
Diagnosis: Swellings — dorsum of tail; indeterminate nature
Submitter: R. Kenk

RTLA 31. Claw-footed toad, *Xenopus laevis*
Material: One block of fixed material; 4 photographs; 18 slides
Diagnosis: Tuberculoma — leg muscle
Submitter: E. Elkan
RTLA 32. Claw-footed toad, *Xenopus laevis*
Material: One block of fixed material; 4 slides
Diagnosis: Nephroblastoma
Submitter: E. Elkan

RTLA 33. Earthworm, *Lumbricus terrestris*
Material: One earthworm; 10 slides; 4 photographs
Diagnosis: Contracted scar due to injury plus multiple parasitic lesions
Submitter: E. Holland

RTLA 34. Painted turtle, *Chrysemys picta*
Material: Head of turtle; 12 slides; 7 photographs
Diagnosis: Otitis media with foreign body reaction
Submitter: H. Miller

RTLA 35. Pond snail, *Physa heterostropha*
Material: Two slides
Diagnosis: "Cyst-like" bodies primarily on reproductive organs due to microsporidian parasite
Submitter: E. H. Michelson

RTLA 36. Bilharzia snail, *Australorbis glabratus*
Material: Three slides
Diagnosis: Tubercle-like lesions of tentacles and head region due to infection by acid-fast bacteria
Submitter: E. H. Michelson

RTLA 37. Pacific oyster, *Crassostrea gigas*
Material: Thirty-seven slides; 4 blocks
Diagnosis: Fibrous tumor of gonadal origin
Submitter: G. B. Pauley

RTLA 38. Freshwater mussel, *Anodonta californiensis*
Material: Eight slides; 1 block
Diagnosis: Polypoid hyperplasia of submucosal glands of foot
Submitter: G. B. Pauley

RTLA 39. Hydra
Material: One slide
Diagnosis: Developmental anomaly; teratogenesis (?)
Submitter: E. Holland
RTLA 40. Hydra
Material: Normal; budding and degenerate growths; 14 slides; 4 photographs
Diagnosis: Developmental anomaly; teratogenesis (?)
Submitter: E. Holland

RTLA 41. Leopard frog, Rana pipiens
Material: One kidney; 3 photographs; 10 slides
Diagnosis: Urethane-induced renal adenocarcinoma
Submitter: J. S. Waterhouse

RTLA 42. Seahorse, Hippocampus sp.
Material: One gross specimen (mass near eye); 8 slides
Diagnosis: Parasitic lesion -- probably microsporidian
Submitter: M. M. Sigel

RTLA 43. European corn borer, Ostrinia nubilalis
Material: One larva; 6 photographs; 34 slides
Diagnosis: Pigmented cuticular projection with underlying hemocyte reaction
Submitter: H. L. Zimmack

RTLA 44. Leafhopper, Agallia constricta
Material: Two electron photomicrographs; 6 photographs
Diagnosis: Ganglion cells infected with wound tumor virus
Submitter: K. Maramorosch

RTLA 45. Khapra beetle, Trogoderma granarium
Material: Six adult beetles
Diagnosis: Cuticular deformations
Submitter: R. G. Strong

RTLA 46. Granary weevil, Sitophilus granarius
Material: One adult weevil
Diagnosis: Cuticular deformations
Submitter: R. G. Strong

RTLA 47. Variegated cutworm, Peridroma saucia
Material: One slide; 4 photographs
Diagnosis: Granulosis virus infection showing hyperplasia, chromosome bridges and fragments, and multipolar filaments in the fat body
Submitter: M. E. Martignoni
RTLA 48. Variegated cutworm, *Peridroma saucia*
Material: One slide
Diagnosis: Granulosis virus infection showing nodule ("giant cell") formation in the hemocoel
Submitter: M. E. Martignoni
Reprint: [see RTLA 47]

RTLA 49. *Drosophila melanogaster*
Material: One slide; 2 photographs
Diagnosis: "Brown tumors" in brown tumor strain
Submitter: M. E. Martignoni

RTLA 50. King crab, *Limulus polyphemus*
Material: One lateral eye; 4 photographs; 42 slides
Diagnosis: Foreign body with inflammatory reaction
Submitter: M. L. Behrens

RTLA 51. Crab
Material: Portions of exoskeleton with protuberances
Diagnosis: Undetermined
Submitter: W. Schmitt and P. Kier

RTLA 52. Hydra, *Chlorohydra viridissima*
Material: Three vials of hydra; 19 photographs; 7 slides
Diagnosis: Giant mutants; heterocytes; and normal individuals
Submitter: H. M. Lenhoff

RTLA 53. Queenfish, *Seriphus politus*
Material: Five fish; 9 photographs; 3 slides
Diagnosis: Focal swellings on lip; tissue too disrupted by freezing for diagnosis
Submitter: R. C. Fay

RTLA 54. Coral, *Madrepora kauaiensis*
Material: Three photographs
Diagnosis: Anomalous growths; neoplasia versus reaction to parasites
Submitter: D. F. Squires

White, Philip R. and John D. Soule [comments on Squires' article and Squires' rebuttal to their comments]. Science, 150(3692): 77-78. 1965.

RTLA 55. American chameleon, *Anolis carolinensis*
Material: One adult chameleon
Diagnosis: Cyst on neck; probably inflammatory origin
Submitter: E. C. Bay
RTLA 56. American cockroach, *Periplaneta americana*
- **Material:** Eight slides; 8 vials of specimens; 36 photographs
- **Diagnosis:** Abnormal salivary glands induced by ligature or nerve severance
- **Submitter:** D. J. Sutherland
  

RTLA 57. Silver dollar or Spotted metynnis, *Metynnis maculatus*
- **Material:** Gross specimen; 7 slides; 2 photographs
- **Diagnosis:** Parasitic infestation (protozoan)
- **Submitter:** M. Stanton

RTLA 58. Yellowfin goby, *Acanthogobius flavimanus*
- **Material:** Four fish; 9 slides; 4 photographs
- **Diagnosis:** Epithelial papillomas
- **Submitter:** Y. Ito

RTLA 59. Crayfish, *Procambarus clarki*
- **Material:** One crayfish
- **Diagnosis:** Limb loss with failure of regeneration; etiology (?)
- **Submitter:** C. A. G. Wiersma

RTLA 60. Leopard frog, *Rana pipiens*
- **Material:** Two slides
- **Diagnosis:** Renal adenocarcinoma
- **Submitter:** A. Granoff

RTLA 61. Splitnose rockfish, *Sebastes diploproa*
- **Material:** Nineteen slides; 47 photographs
- **Diagnosis:** Lipoma
- **Submitter:** J. C. Harshbarger

RTLA 62. White croaker, *Genyonemus lineatus*
- **Material:** Numerous fish; slides; photographs
- **Diagnosis:** Epithelial papillomas
- **Submitter:** J. C. Harshbarger

RTLA 63. Giant leathery turtle, *Dermochelys coriacea*
- **Material:** Nine slides; 3 photographs
- **Diagnosis:** Granulomatous reaction; etiology (?)
- **Submitter:** J. R. Hendrickson
RTLA 64. Nudibranch, *Hermissenda crassicornis*
Material: Two electron photomicrographs
Diagnosis: Unclassified microorganism in receptor cells
Submitter: J. Westfall

RTLA 65. House fly, *Musca domestica*
Material: Nineteen photographs
Diagnosis: Focal lesions in hypodermis, midgut, and fat bodies induced by carcinogenic fluorenamine derivatives
Submitter: G. E. Cantwell

RTLA 66. Guppy, *Poecilia reticulata*
Material: Gross specimens
Diagnosis: Infected with gram negative rod-shaped bacteria
Submitter: T. Kozma

RTLA 67. Red-spotted newt, *Notophthalmus viridescens*
Material: One gross specimen; 4 slides; 17 photographs
Diagnosis: Helminth cysts
Submitter: H. Evans

RTLA 68. *Locusta migratoria*
Material: Seven slides; 4 photographs
Diagnosis: Gregarine parasitic infestation
Submitter: G. Matz

RTLA 69. Madeira cockroach, *Leucophaea maderae*
Material: Two slides
Diagnosis: Salivary reservoir lesions resulting from nerve severance
Submitter: G. Matz

RTLA 70. Alpine newt, *Triturus alpestris*
Material: Four slides
Diagnosis: Epithelioma
Submitter: G. Matz

RTLA 71. Acipenseriformes
Material: Three specimens
Diagnosis: Ridge scales and fin spines (fossils)
Submitter: J. T. Gregory
RTLA 72. Osteichthyes
Material: Three specimens
Diagnosis: Pachyostose operculars (fossils)
Submitter: J. T. Gregory

RTLA 73. American bullfrog, Rana catesbeiana
Material: Fourteen paraffin blocks; 3 photographs; 7 slides
Diagnosis: Inflammatory lesions
Submitter: D. DuBois

RTLA 74. Snapping turtle, Chelydra serpentina
Material: Eleven paraffin blocks; 3 photographs; slides
Diagnosis: Degenerative lesions
Submitter: D. DuBois

RTLA 75. Guppy, Poecilia reticulata
Material: Thirteen fish -- 6 with thoracic teratomas; 96 slides; 21 photographs
Diagnosis: Teratoid anomalies
Submitter: R. Wenk

RTLA 76. Moon snail, Polinices lewisi
Material: Three slides
Diagnosis: Infection -- with inflammatory reaction
Submitter: R. L. Taylor

RTLA 77. Rainbow trout, Salmo gairdneri
Material: Two fish; 5 livers; 12 slides
Diagnosis: (1) hepatomas; (2) trabecular hepatocarcinoma; and (3) adenosarcoma (carcinosarcoma)
Submitter: J. H. Wales

RTLA 78. Spruce budworm, Choristoneura fumiferana
Material: Seventeen larvae and one pupa; 4 photographs
Diagnosis: Epidermal necrosis and hyperplasia with sloughing of the cuticle possibly due to contact with a toxic material
Submitter: R. L. Lyon

RTLA 79. Crayfish, Orconectes rusticus
Material: One slide
Diagnosis: Duct obstruction with necrosis and inflammatory reaction in the hepatopancreas
Submitter: J. Hubschman

RTLA 80. Earthworm, Lumbricus sp.
Material: One earthworm; 4 photographs; 10 slides
Diagnosis: Multiple parasitic lesions
Submitter: E. Holland
RTLA 81. *Drosophila melanogaster*
Material: Three vials of adults; 4 photographs; a list of mutants that produce melanotic tumors; descriptions of mutants causing tumors; and a list of laboratories that carry tumorous stocks and the stocks they carry.
Diagnosis: Freckled strain
Submitter: D. L. Lindsley

RTLA 82. Dace
Material: One gross specimen; 7 photographs
Diagnosis: Parasitic cyst; myxosporida suspected
Submitter: R. D. Schick

RTLA 83. Sea urchin test
Material: Six photographs and x-ray films
Diagnosis: Repair after transection of radial canals
Submitter: G. R. Clark, II

RTLA 84. American brook lamprey, *Lampetra lamottei*
Material: One gross specimen; 8 photographs; 3 slides
Diagnosis: Multiple granulomas in response to helminth parasites
Submitter: J. H. Howell

RTLA 85. Silkworm, *Bombyx mori*
Material: Seven slides
Diagnosis: Abnormal proliferation of epidermal cells in larvae infected with *Tipula* iridescent virus
Submitter: T. Hukuhara

RTLA 86. Brown bullhead, *Ictalurus nebulosus*
Material: One fish head; 4 photographs; 2 slides
Diagnosis: Melanoma
Submitter: L. N. Allison

RTLA 87. Western fence lizard, *Sceloporus occidentalis*
Material: One gross lizard; 4 photographs
Diagnosis: Infectious granuloma; bacterial origin suspected
Submitter: C. Gans

RTLA 88. Goldfish, *Carassius auratus*
Material: Two pieces of tissue; 6 slides; 3 photographs
Diagnosis: Fibromyxosarcoma
Submitter: Fisheries Research Board of Canada

RTLA 89. Sea lamprey, *Petromyzon marinus*
Material: One gross lamprey; photographs; slides
Diagnosis: Melanoma with metastases
Submitter: J. H. Howell
RTLA 90. Housefly, *Musca domestica*
Material: Adult flies; 10 photographs
Diagnosis: (1) melanotic tumors
(2) melanotic sclerosis
Submitter: R. P. Bodnaryk

RTLA 91. Blue gourami, *Trichogaster trichopterus*
Material: Three blocks of tissue; 15 photographs; 16 slides
Diagnosis: Granulomatous inflammatory reaction involving gut, spleen, and liver
Submitter: D. O. Carpenter

RTLA 92. Butter clam, *Saxidomus giganteus*
Material: One clam; 1 photograph; 10 slides; 2 blocks
Diagnosis: Polypoid developmental anomaly of foot
Submitter: G. Pauley
Reprint: [see RTLA 136]

RTLA 93. Walleye, *Stizostedion vitreum vitreum*
Material: Head of fish; 5 photographs; 9 slides
Diagnosis: Multiple fibrosarcomas with ossification
Submitter: L. N. Allison

RTLA 94. Painted turtle, *Chrysemys picta*
Material: One gross turtle; 14 photographs
Diagnosis: Epidermoid cyst on neck
Submitter: K. Potter

RTLA 95. Garter snake, *Thamnophis sirtalis*
Material: Two slides
Diagnosis: (1) fibropapilloma
(2) sertoli cell tumor
Submitter: L. Karstad

RTLA 96. Fox snake, *Elaphe vulpina*
Material: One snake with abdominal mass
Diagnosis: Pararenal hematoma
Submitter: C. Gans

RTLA 97. Mud puppy, *Necturus maculosus*
Material: One kidney; 6 photographs; 6 slides
Diagnosis: Undifferentiated renal neoplasm; probably metastatic
Submitter: C. H. Nauman

RTLA 98. Redtailed black shark, *Labeo bicolor*
Material: One gross fish; 14 photographs; 7 slides
Diagnosis: Infectious granuloma
Submitter: J. A. Zgurzynski
RTLA 99. Bloater, Coregonus hoyi
Material: Rear half of fish; 8 photographs; 3 slides
Diagnosis: Spindle cell sarcoma (possible neural origin)
Submitter: L. N. Allison

RTLA 100. Clematis blister beetle, Epicauta cinerea
Material: Gross specimens of gut; 15 slides; 12 photographs
Diagnosis: Hyperplastic outgrowths on midgut; etiology undetermined
Submitter: A. P. Gupta

RTLA 101. Black crappie, Pomoxis nigromaculatus
Material: One fish
Diagnosis: Lipoma; with large growth in anterior abdominal region
Submitter: G. W. Camenisch

RTLA 102. Planarian, Dugesia dorotocephala
Material: One gross specimen; photographs
Diagnosis: Abnormal regeneration
Submitter: M. Jenkins

RTLA 103. Spot, Leiostomus xanthurus
Material: One fish; 5 photographs; 19 slides
Diagnosis: Anterior abdominal tumor produced by a microsporidian
Submitter: V. Sprague

RTLA 104. Earthworm, Lumbricus sp.
Material: One earthworm; 4 photographs
Diagnosis: Secondary tail of 15 segments
Submitter: E. Holland

RTLA 105. Coho salmon, Oncorhynchus kisutch
Material: One fish fillet; 8 photographs; 10 slides
Diagnosis: Neurofibroma
Submitter: W. G. Yoder

RTLA 106. Lingcod, Ophiodon elongatus
Material: Segment of animal with dorsal fin; 5 photographs; 2 slides
Diagnosis: Lymphocystis
Submitter: Fisheries Research Board of Canada

RTLA 107. Sydney rock oyster (Australian), Crassostrea commercialis
Material: Twenty photographs; 17 slides
Diagnosis: Papillary epitheliomas of the mantle
Submitter: P. H. Wolf
RTLA 108. Pacific oyster, *Crassostrea gigas*
Material: Four slides
Diagnosis: Ganglioneuromas; watery cyst
Submitter: G. B. Pauley

RTLA 109. Claw-footed toad, *Xenopus laevis*
Material: Fifteen slides
Diagnosis: Granulomatous disease containing acid-fast bacteria
Submitter: L. N. Ruben

RTLA 110. Giant conch, *Strombus gigas*
Material: Two slides
Diagnosis: Inflammatory reaction; cause indeterminate
Submitter: M. M. Sigel

RTLA 111. Moray
Material: Two slides
Diagnosis: Nonsuppurative panniculitis
Submitter: M. M. Sigel

RTLA 112. Northern pike, *Esox lucius*
Material: Gross specimens from the jaws and trunks; 3 slides
Diagnosis: Lymphosarcomas
Submitter: M. F. Mulcahy

RTLA 113. Box turtle, *Terrapene carolina*
Material: Three slides
Diagnosis: Ear infection
Submitter: W. Dix

RTLA 114. Coral, several species
Material: Twenty-one photographs
Diagnosis: Anomalous growths; neoplasia versus reaction to parasites
Submitter: D. F. Squires

RTLA 115. Mud clam, *Mya arenaria*
Material: Seven slides
Diagnosis: Papillary lesions at pedal orifice
Submitter: P. R. Nelson

RTLA 116. Boa constrictor, *Boa constrictor*
Material: Two bottles of tissue; 45 slides; 8 photographs
Diagnosis: Infectious granulomas of indeterminate etiology
Submitter: B. L. Burge
RTLA 117. Cobra, *Naja naja*
Material: Heart and tumor-like growth of specimen
Diagnosis: Fibrinous pericarditis and subepicardial myocarditis
Submitter: W. E. Haast

RTLA 118. Largescale sucker, *Catostomus macrocheilus*
Material: Specimen of anal fin; 7 photographs; 2 slides
Diagnosis: Papillary epithelioma (non-invasive)
Submitter: J. R. Adams

RTLA 119. Planarians, *Dugesia* and *Crenobia*
Material: Seven slides
Diagnosis: Histopathologic effects of insecticides
Submitter: H. An der Lan

RTLA 120. Water snake, *Xenochrophis piscator*
Material: Nine slides; 8 photographs
Diagnosis: Granulomas
Submitter: P. Zwart

RTLA 121. Green turtle, *Chelonia mydas*
Material: Six bottles of specimens; 5 slides; 27 photographs
Diagnosis: Fibroma
Submitter: A. C. Smith

RTLA 122. Skipjack tuna, *Euthynnus pelamis*
Material: Two photographs; 2 slides
Diagnosis: Puffy snout disease (fibrosis and inflammation)
Submitter: J. C. Marr

RTLA 123. Mountain pine beetle, *Dendroctonus ponderosae*
Material: Three beetles with cuticular vesicle on elytral declivities
Diagnosis: Possible physical trauma in emergence
Submitter: G. D. Amman

RTLA 124. Firemouth, *Cichlasoma meeki*
Material: One fish; 2 slides; 11 photographs
Diagnosis: Mechanical injury
Submitter: H. McCarthy

RTLA 125. Pilot black snake, *Elaphe obsoleta obsoleta*
Material: One snake; 9 slides; 7 photographs
Diagnosis: Infectious granuloma
Submitter: R. Tuck, Jr.

RTLA 126. Edible shrimp, *Penaeus aztecus*
Material: Two gross specimens; 10 photographs
Diagnosis: Ulcerative ventral lesion posterior to walking legs
Submitter: R. Neal
RTLA 127. Northern pike, *Esox lucius*
Material: Three slides
Diagnosis: Lymphosarcoma
Submitter: R. F. Nigrelli

RTLA 128. Lightning bug, *Photurus* sp.
Material: Four specimens; 5 photographs
Diagnosis: Late stage of wound repair
Submitter: M. McLean

Material: Gross specimen; 17 slides; 6 photographs
Diagnosis: Melanoma
Submitter: J. J. Christian

RTLA 130. Neotropical race runner, *Cnemidophorus lemniscatus*
Material: Gross specimen; 24 photographs; 9 slides
Diagnosis: Multiple infectious bacterial granuloma
Submitter: R. Tuck, Jr.

Material: Gross specimen; 6 photographs
Diagnosis: Pending
Submitter: H. Park

RTLA 132. Freshwater mussel, *Anodonta californiensis*
Material: Nine gross specimens
Diagnosis: Polypoid hyperplasia
Submitter: G. B. Pauley; Reprint: [see RTLA 140]

RTLA 133. Freshwater mussel, *Anodonta oregonensis*
Material: Gross specimen
Diagnosis: Polypoid hyperplasia
Submitter: G. B. Pauley; Reprint: [see RTLA 140]

RTLA 134. Oyster, *Crassostrea gigas*
Material: Gross specimen
Diagnosis: Large watery cyst anterior to heart
Submitter: G. B. Pauley; Reprint: [see RTLA 108]

RTLA 135. Oyster, *Crassostrea gigas*
Material: One slide
Diagnosis: Endematous mesenchymal tumor

RTLA 136. Smooth Washington clam, *Saxidomus giganteus*
Material: Two slides; 1 block
Diagnosis: Polypoid tumor on foot
RTLA 137. Freshwater mussel, *Margaritifera margaritifera*
Material: Two slides; 1 block
Diagnosis: Polypoid tumor on foot
Submitter: G. B. Pauley

RTLA 138. Freshwater mussel, *Margaritifera margaritifera*
Material: One slide; 2 blocks
Diagnosis: Polypoid tumor on foot
Submitter: G. B. Pauley
Reprint: [see RTLA 140]

RTLA 139. Freshwater mussel, *Margaritifera margaritifera*
Material: One slide; 1 block
Diagnosis: Polypoid tumor on foot
Submitter: G. B. Pauley
Reprint: [see RTLA 140]

RTLA 140. Freshwater mussel, *Anodonta oregonensis*
Material: One slide
Diagnosis: Incipient polypoid tumors on foot
Submitter: G. B. Pauley

RTLA 141. Freshwater mussel, *Anodonta californiensis*
Material: Three slides
Diagnosis: Edematous hyperplasia of gill
Submitter: G. B. Pauley
Reprint: [see RTLA 140]

RTLA 142. Freshwater mussel, *Anodonta californiensis*
Material: Six slides
Diagnosis: (1) Polypoid tumor on foot
(2) Hyperplasia on gill
Submitter: G. B. Pauley
Reprint: [see RTLA 140]

RTLA 143. Freshwater mussel, *Anodonta californiensis*
Material: One slide; 4 blocks
Diagnosis: Incipient polypoid tumors on foot
Submitter: G. B. Pauley
Reprint: [see RTLA 38]

RTLA 144. Freshwater mussel, *Anodonta californiensis*
Material: Seven slides including 3 autoradiographs
Diagnosis: Polypoid tumors on foot
Submitter: G. B. Pauley
Reprint: [see RTLA 38]
RTLA 145. Freshwater mussel, *Anodonta californiensis*
Material: Two slides
Diagnosis: Polypoid tumors on foot
Submitter: G. B. Pauley
Reprint: [see RTLA 38]

RTLA 146. Freshwater mussel, *Margaritifera margaritifera*
Material: Nine slides; 9 blocks
Diagnosis: Edematous cysts "spongy disease"
Submitter: G. B. Pauley
Reprint: [see RTLA 137]

RTLA 147. Soft-shell clam, *Mya arenaria*
Material: Three slides
Diagnosis: Fungiform smooth muscle tumor on siphon
Submitter: G. B. Pauley and T. Cheng

RTLA 148. Freshwater mussel, *Gonidea angulata*
Material: Four slides; 2 blocks
Diagnosis: Polypoid tumor on foot
Submitter: G. B. Pauley
Reprint: [see RTLA 140]

RTLA 149. Freshwater mussel, *Gonidea angulata*
Material: Five slides; 1 block
Diagnosis: Polypoid tumor on foot with collagenous stroma
Submitter: G. B. Pauley
Reprint: [see RTLA 140]

RTLA 150. American oyster, *Crassostrea virginica*
Material: One paraffin block; 9 slides
Diagnosis: Mesenchymal neoplasms; possibly reticulum cell sarcomas
Submitter: J. A. Couch

RTLA 151. Sydney rock oyster, *Crassostrea commercialis*
Material: Five slides; 1 photograph
Diagnosis: Epithelial papilloma
Submitter: P. H. Wolf
Reprint: [see RTLA 107]

RTLA 152. Sydney rock oyster, *Crassostrea commercialis*
Material: Three slides; 2 paraffin blocks; 1 photograph
Diagnosis: Epithelial papilloma
Submitter: P. H. Wolf
Reprint: [see RTLA 107]
RTLA 153. Pacific oyster, *Crassostrea gigas*
Material: Two slides
Diagnosis: Mesenchymal tumor
Submitter: A. K. Sparks

RTLA 154. Pacific oyster, *Crassostrea gigas*
Material: Two slides
Diagnosis: Fecal impaction; possibly due to congenital stenosis
Submitter: A. K. Sparks

RTLA 155. Littleneck clam, *Venerupis staminea*
Material: One slide
Diagnosis: Infestation with larval cestode, *Echeneibothrium* sp.
Submitter: A. K. Sparks

RTLA 156. Smallmouth bass, *Micropterus dolomieui*
Material: One excised tumor; 4 slides; 4 photographs
Diagnosis: Fibrovascular tumor; lymphangioma (?); mesothelioma (?)
Submitter: W. G. Yoder

RTLA 157. Pacific cod, *Gadus macrocephalus*
Material: Gross specimens; 21 slides; 7 photographs
Diagnosis: Adenoma of parabranchial body -- tentative diagnosis based on poorly fixed tissue
Submitter: C. D. Levings

RTLA 158. Earthworm, *Lumbricus terrestris*
Material: Fourteen slides
Diagnosis: Epithelioma-like lesion following cold injury
Submitter: H. I. Firminger

RTLA 159. Planarian, *Dugesia dorotocephala*
Material: Seven slides
Diagnosis: "Curly-tail disease" -- intranuclear inclusion bodies in some neoblasts are suspected as being viruses
Submitter: C. J. Dawe
Reprint: Dawe, Clyde J. Invertebrate Animals in Cancer Research. GANN Monogr. 5: 45-55. 1968.
RTLA 160. Sydney rock oyster, *Crassostrea commercialis*
Material: One gross specimen
Diagnosis: Papillary epithelioma of mantle
Submitter: P. H. Wolf
Reprint: [see RTLA 107]

RTLA 161. Sydney rock oyster, *Crassostrea commercialis*
Material: One gross specimen; 1 photograph
Diagnosis: Papillary epithelioma of mantle
Submitter: P. H. Wolf
Reprint: [see RTLA 107]

RTLA 162. Sydney rock oyster, *Crassostrea commercialis*
Material: One gross specimen; 1 photograph
Diagnosis: Papillary epithelioma of mantle
Submitter: P. H. Wolf
Reprint: [see RTLA 107]

RTLA 163. Walleye, *Stizostedion vitreum vitreum*
Material: One gross specimen; 3 slides; 8 photographs
Diagnosis: (1) lymphocystis
(2) dermal sarcoma
Submitter: R. Walker

RTLA 164. Walleye, *Stizostedion vitreum vitreum*
Material: Three paraffin blocks; 2 slides
Diagnosis: Epithelioma
Submitter: R. Walker


RTLA 165. English sole, *Parophrys vetulus*
Material: Four groups of gross specimens
Diagnosis: Cuticular papillomas
Submitter: R. C. Cooper and C. A. Keller

RTLA 166. Ramirez's dwarf cichlid, *Apistogramma ramirezi*
Material: One gross specimen; 5 photographs; 3 slides
Diagnosis: Lymphocystis
Submitter: R. Kanazawa
RTLA 167. Eastern coral snake, Micrurus fulvius fulvius
Material: Two pieces of tissue; 6 photographs; 12 slides
Diagnosis: Acute necrotizing pneumonitis with multiple small abscesses
Submitter: W. E. Haast

RTLA 168. Sea hare, Aplysia californica
Material: Gross specimen; 28 slides
Diagnosis: Obstructed albumen gland (?)
Submitter: D. O. Carpenter

RTLA 169. Earthworm, Lumbricus sp.
Material: One gross specimen; 6 photographs; 10 slides
Diagnosis: Supernumerary clitellum
Submitter: E. Holland

RTLA 170. Skipjack tuna, Euthynnus pelamis
Material: Gross specimen; 5 photographs; 3 slides
Diagnosis: Hematoma; no infection; blood cells broken down indicating rather old condition
Submitter: J. C. Marr

RTLA 171. American oyster, Crassostrea virginica
Material: Six panels with 43 specimens of shells with abnormalities of growth and malformations in the shell; 1 photograph
Diagnosis: Panel 1. Normal shells
Panel 2. Shift in direction of the principle axis of growth
Panel 3. Repair of shell injuries
Panel 4. Formation of cysts
Panel 5. Massive calcite deposits and pearl-like structures
Panel 6. Abnormal growth of right valve
Submitter: P. S. Galtsoff

RTLA 172. Leopard frog, Rana pipiens
Material: Twelve slides; 1 gross specimen; 1 photograph; 1 summary sheet of research program; and 1 list of frog kidney tumor specimens available at Trinity College, Washington, D.C.
Diagnosis: Renal adenocarcinoma
Submitter: G. S. King

RTLA 173. Angelfish, Pterophyllum scalare
Material: Two slides
Diagnosis: Lymphocystis
Submitter: M. M. Sigel

RTLA 174. Moray
Material: Four slides
Diagnosis: Granulomatous inflammatory reaction; etiology unknown
Submitter: M. M. Sigel
RTLA 175. Conch
Material: Seven slides
Diagnosis: Indeterminant
Submitter: M. M. Sigel

RTLA 176. Bloater, *Coregonus hoyi*
Material: Two fish (dressed); 11 photographs; 11 slides
Diagnosis: Myxomatous lesion induced by unidentified organism
Submitter: L. N. Allison

RTLA 177. White sucker, *Catostomus commersoni*
Material: One gross animal; 2 photographs
Diagnosis: Boil-like lesion containing protozoan parasites; myxosporida suspected
Submitter: R. D. Schick

RTLA 178. Discus fish, *Symphysodon discus*
Material: One gross specimen; 3 photographs
Diagnosis: Inflammation and necrosis in muscle due to mixed infection of bacteria and protozoa (microsporidia suspected)
Submitter: R. D. Schick

RTLA 179. *Iguana iguana*
Material: One gross autopsy specimen; 5 photographs including x-ray; 2 slides
Diagnosis: Osteodystrophy
Submitter: R. B. Northway

RTLA 180. Corn earworm, *Heliothis zea*
Material: Five 35 mm slides of histology sections from various organs
Diagnosis: Infection with nuclear polyhedrosis virus of *Trichoplusia ni*
Submitter: G. E. Cantwell

RTLA 181. Cabbage looper, *Trichoplusia ni*
Material: Six 35 mm slides of histology sections from various organs
Diagnosis: *T. ni* with 2 polyhedrosis viruses
Submitter: G. E. Cantwell

RTLA 182. Zebra caterpillar, *Ceramica picta*
Material: Four 35 mm slides of histology sections from various organs
Diagnosis: Nuclear polyhedrosis infection
Submitter: G. E. Cantwell

RTLA 183. Silkworm, *Bombyx mori*
Material: One 35 mm slide
Diagnosis: Cytoplasmic polyhedrosis virus
Submitter: G. E. Cantwell

RTLA 184. Corn earworm, *Heliothis zea*
Material: One 35 mm slide
Diagnosis: Cytoplasmic virus of gut epithelium
Submitter: G. E. Cantwell
RTLA 185. Saltmarsh caterpillar, *Estigmene acrea*
Material: One 35 mm slide
Diagnosis: Granulosis virus of fat body
Submitter: G. E. Cantwell

RTLA 186. Fir-shoot roller, *Choristoneura murinana*
Material: One 35 mm slide
Diagnosis: Granulosis virus of fat body cells of fourth instar larva
Submitter: G. E. Cantwell

Material: One 35 mm slide
Diagnosis: Nosema disease
Submitter: G. E. Cantwell

RTLA 188. Larch sawfly, *Pristiphora erichsonii*
Material: Two 35 mm slides
Diagnosis: *Bacillus cereus* penetrating the gut in the vicinity of point of attachment of hindgut to posterior portion of midgut
Submitter: G. E. Cantwell

Material: One 35 mm slide
Diagnosis: Spores of *Bacillus popilliae* in the blood
Submitter: G. E. Cantwell

RTLA 190. Silkworm, *Bombyx mori*
Material: Two 35 mm slides
Diagnosis: Effects of crystals of *B. thuringiensis* on gut 15 minutes after feeding and change in the midgut 55 minutes after crystal ingestion
Submitter: G. E. Cantwell

RTLA 191. Crane fly, *Tipula paludosa*
Material: One 35 mm slide
Diagnosis: Fat body cells of larva infected with *Rickettsiella tipulae*
Submitter: G. E. Cantwell

RTLA 192. Mediterranean flour moth, *Anagasta kuehniella*
Material: One 35 mm slide
Diagnosis: Section of *A. kuehniella* two days after infection by *B. cereus*
Submitter: G. E. Cantwell

RTLA 193. Rhinoceros beetle, *Oryctes rhinoceros*
Material: One 35 mm slide
Diagnosis: *Beauveria tenella* infection
Submitter: G. E. Cantwell

RTLA 194. *Oryctes nasicornis*
Material: One 35 mm slide
Diagnosis: *Beauveria tenella* infection
Submitter: G. E. Cantwell
RTLA 195. Rhinoceros beetle, \textit{Oryctes rhinoceros}  
Material: One 35 mm slide  
Diagnosis: \textit{Metarrhizium anisopliae} infection  
Submitter: G. E. Cantwell

RTLA 196. Larch sawfly, \textit{Pristiphora erichsonii}  
Material: One 35 mm slide  
Diagnosis: Normal larch sawfly  
Submitter: G. E. Cantwell

RTLA 197. Coho salmon, \textit{Oncorhynchus kisutch}  
Material: One gross specimen; photographs; 3 slides  
Diagnosis: Fibrolipoma  
Submitter: L. N. Allison

RTLA 198. \textit{Drosophila melanogaster}  
Material: Eleven slides  
Diagnosis: Five slides -- st tubw adults  
Three slides -- plus wild type adults  
Three slides -- larval cross sections  
Submitter: J. H. Sang  

RTLA 199. Guppy, \textit{Poecilia reticulata}  
Material: Three whole specimens  
Diagnosis: Teratoid anomalies  
Submitter: R. Wenk

RTLA 200. Giant toad, \textit{Bufo marinus}  
Material: One live toad  
Diagnosis: Lymphatic cyst on top of head  
Submitter: C. Gans

RTLA 201. Red-eared turtle, \textit{Chrysemys scripta elegans}  
Material: One live turtle  
Diagnosis: Epidermoid cyst under left eye with bacterial infection  
Submitter: W. Frair

RTLA 202. Sockeye salmon, \textit{Oncorhynchus nerka}  
Material: One adult salmon  
Diagnosis: Fibroma  
Submitter: N. Boyce

RTLA 203. Coho salmon, \textit{Oncorhynchus kisutch}  
Material: One adult coho salmon; 3 photographs  
Diagnosis: Lymphosarcoma  
Submitter: N. Boyce

RTLA 204. Mummichog, \textit{Fundulus heteroclitus}  
Material: Six slides  
Diagnosis: Fibroma  
Submitter: P. P. Yevich
RTLA 205. American bullfrog, *Rana catesbeiana*
Material: One slide
Diagnosis: Acute and chronic inflammation associated with bacterial colonies involving liver and muscle
Submitter: E. L. Cooper and B. S. Baculi

RTLA 206. Western toad, *Bufo boreas*
Material: One slide
Diagnosis: Fibroma
Submitter: E. L. Cooper and B. S. Baculi

RTLA 207. Frog, *Rana montezumae*
Material: One slide
Diagnosis: Splenic infarcts
Submitter: E. L. Cooper and B. S. Baculi

RTLA 208. Shrimp, *Palaemon* sp.
Material: One shrimp
Diagnosis: Parasitized by an isopod, *Bopyrus* sp.
Material: G. O'Coner

RTLA 209. Edible shrimp, *Penaeus aztecus*
Material: Nine gross specimens; 5 normal controls
Diagnosis: Inflammation, repair and regeneration
Submitter: R. A. Neal

RTLA 210. Shrimp, *Penaeus setiferus*
Material: Nine gross specimens; 5 normal controls
Diagnosis: Inflammation, repair and regeneration
Submitter: R. A. Neal

RTLA 211. Praying mantis
Material: Wet tissue; 10 slides
Diagnosis: Granulomas
Submitter: G. E. Cosgrove

RTLA 212. Bull shark, *Carcharhinus leucas*
Material: Gross specimen; 20 slides
Diagnosis: Fibroma
Submitter: M. Walker, G. Zubrod, and P. W. Gilbert

RTLA 213. Longnose sucker, *Catostomus catostomus*
Material: Three whole fish
Diagnosis: Normal
Submitter: R. W. Hinz

RTLA 214. Firebellied newt, *Cynops pyrrhogaster*
Material: Six slides; 1 photograph
Diagnosis: Nephroblastoma
Submitter: P. Zwart
RTLA 215. Pacific oyster, *Crassostrea gigas*
Material: Ten slides; 4 blocks
Diagnosis: Probable epithelioma of the mantle with conchiolin formation
Submitter: G. B. Pauley and C. S. Sayce

RTLA 216. Brook trout, *Salvelinus fontinalis*
Material: Two slides
Diagnosis: Lymphosarcoma
Submitter: C. E. Dunbar

RTLA 217. Rainbow trout, *Salmo gairdneri*
Material: One slide
Diagnosis: Nephroblastoma
Submitter: C. E. Dunbar
Reprint: [see RTLA 62]

RTLA 218. Croaker
Material: Gross specimen; 3 photographs
Diagnosis: Exostosis versus osteoma
Submitter: J. P. Summerour

RTLA 219. Gudgeon, *Gobio gobio*
Material: Five slides; one 35 mm slide
Diagnosis: Squamous cell carcinoma
Submitter: L. E. Mawdesley-Thomas

RTLA 220. Bream, *Abramis brama*
Material: Four slides; two 35 mm slides
Diagnosis: Lipoma
Submitter: L. E. Mawdesley-Thomas

RTLA 221. Roach, *Rutilus rutilus*
Material: Four slides
Diagnosis: Fish pox
Submitter: L. E. Mawdesley-Thomas

RTLA 222. Mummichog, *Fundulus heteroclitus*
Material: Four slides and blocks
Diagnosis: Granulomas
Submitter: P. P. Yevich
RTLA 223. Sydney rock oyster, *Crassostrea commercialis*
Material: Two photographs; 6 slides
Diagnosis: Papilloma of mantle
Submitter: P. H. Wolf

RTLA 224. American oyster, *Crassostrea virginica*
Material: Thirteen slides
Diagnosis: Hematopoietic neoplasms
Submitter: C. A. Farley

RTLA 225. Pacific oyster, *Crassostrea gigas*
Material: Three slides
Diagnosis: Hematopoietic neoplasms
Submitter: C. A. Farley
Reprint: [see RTLA 224]

RTLA 226. Broad-banded copperhead, *Agkistrodon contortrix laticinctus*
Material: One piece of lung tissue; 3 photographs
Diagnosis: Excessive mucus and sloughing in bronchus with gram positive bacterial infection; satisfactory cause of death not determined
Submitter: W. E. Haast

RTLA 227. Odonata (dragonfly) naiads
Material: Four specimens
Diagnosis: Subcutaneous lithiasis; etiology unknown
Submitter: H. R. Hepburn

RTLA 228. Atlantic eel, *Anguilla vulgaris*
Material: Gross specimens; 10 slides; photographs
Diagnosis: Epithelial papillomas
Submitter: B. F. Deys

RTLA 229. *Drosophila melanogaster*
Material: A live strain
Diagnosis: tuB3
Submitter: C. Barigozzi

RTLA 230. Blacktail platy, *Xiphophorus* sp., probably a hybrid between *X. maculatus* and *X. helleri*
Material: Twenty gross specimens; photographs
Diagnosis: Melanoma with invasion of underlying muscle
Submitter: I. L. Gorman
RTLA 231. Indigo snake, Drymarchon corais couperi
Material: One piece of tissue; photographs
Diagnosis: Granuloma with totally necrotic center
Submitter: Unknown

RTLA 232. Red-spotted newt, Notophthalmus viridescens
Material: Two slides; blocks
Diagnosis: Nematode parasite in pancreas
Submitter: G. E. Cosgrove

RTLA 233. Hellbender, Cryptobranchus alleganiensis
Material: One slide; two 35 mm slides; 1 piece of wet tissue
Diagnosis: Adenoma of seminiferous epithelium
Submitter: G. E. Cosgrove

RTLA 234. Iguana iguana
Material: Three 35 mm slides; blocks; 1 slide
Diagnosis: Chronic abscess of the subcutaneous tissue of the left mandibular area; culture of abscess contents positive for Klebsiella sp.
Submitter: G. E. Cosgrove

RTLA 235. Blue mussel, Mytilus edulis
Material: Three slides
Diagnosis: Lymphoma
Submitter: C. A. Farley

RTLA 236. Slatepencil urchin, Heterocentrotus mammillatus
Material: Sea-urchin spine with appendage
Diagnosis: Developmental anomaly
Submitter: A. C. Smith

RTLA 237. Sea hare, Aplysia californica
Material: One gross specimen
Diagnosis: Granuloma -- caused by a fungus
Submitter: D. O. Carpenter

RTLA 238. Claw-footed toad, Xenopus laevis
Material: Two gross kidney specimens
Diagnosis: (1) Gastro-pancreatic carcinoma
(2) Kidney carcinoma plus tubercles containing acid-fast bacteria
Submitter: E. Elkan
RTLA 239. Caecilian, *Caecilia tentaculata*
Material: Gross specimen of soft tissue under tongue
Diagnosis: Normal
Submitter: E. H. Taylor

RTLA 240. Half-toed gecko, *Hemidactylus frenatus*
Material: One gross specimen; photographs
Diagnosis: Infectious granuloma with necrotic center containing bacteria
Submitter: R. G. Tuck, Jr.

RTLA 241. American shad, *Alosa sapidissima*
Material: Four slides; 2 photographs
Diagnosis: Chronic inflammatory reaction, repair and scarring at the site of an old wound
Submitter: R. W. Warner

RTLA 242. Sockeye salmon, *Oncorhynchus nerka*
Material: One adult salmon
Diagnosis: Rhabdomyosarcoma
Submitter: N. Boyce

RTLA 243. Blue crab, *Callinectes sapidus*
Material: One right chela
Diagnosis: Cuticular cyst at joint of claw
Submitter: J. A. Couch

RTLA 244. Freshwater clam, *Strophitus undulatus*
Material: One clam
Diagnosis: Glocchidia
Submitter: W. Lener

RTLA 245. Planarian, *Dactyligera muscula*
Material: Six gross specimens
Diagnosis: Anomalous regeneration; etiology unknown
Submitter: R. Kenk

RTLA 246. Malayan pit viper, *Caloselasma rhodostoma*
Material: Two slides
Diagnosis: Oral sepsis; phlegmonous cellulitis
Submitter: E. Elkan

RTLA 247. Guppy, *Poecilia reticulata*
Material: Gross specimens
Diagnosis: Multiple granulomas of liver; possible degeneration of spinal cord
Submitter: R. Wenk

RTLA 248. Chinook salmon, *Oncorhynchus tshawytscha*
Material: Head of one fish
Diagnosis: Fibroameloblastoma
Submitter: J. H. Wales
RTLA 249. *Drosophila melanogaster*, tu(83.9)bw strain
Material: Gross specimens; slides; photographs
Diagnosis: (1) Normal
(2) Melanotic tumors
Submitter: J. H. Sang

Material: Gross specimens
Diagnosis: Granulomatous reaction to parasite (nematode suspected)
Submitter: E. Holland

RTLA 251. *Photuris* sp.
Material: Eleven gross specimens
Diagnosis: Incomplete; variety of teratologies, parasitic and microbial infections
Submitter: M. McLean

Material: One gross specimen
Diagnosis: Hyperplasia and displasia of clitellar epithelium in response to nematode parasite
Submitter: E. Holland

RTLA 253. Darkblotched rockfish, *Sebastes crameri*
Material: One slide; 2 lantern slides
Diagnosis: Follicular and papillary carcinoma of the thyroid
Submitter: M. Katz

RTLA 254. Lingcod, *Ophiodon elongatus*
Material: One slide; 2 lantern slides
Diagnosis: Lymphocystis
Submitter: M. Katz

RTLA 255. Herring
Material: One slide
Diagnosis: Hydatiform cysts of cyclophyllid tapeworms
Submitter: M. Katz

RTLA 256. Sucker, *Deltistes* sp.
Material: Three slides
Diagnosis: Subcutaneous fibroma
Submitter: M. Katz

RTLA 257. Bloater, *Coregonus hoyi*
Material: One gross specimen
Diagnosis: Olfactory neuroepithelioma
Submitter: L. N. Allison

RTLA 258. Coho salmon, *Oncorhynchus kisutch*
Material: One slide; 2 lantern slides
Diagnosis: Neurofibroma
Submitter: M. Katz
RTLA 259. Chinook salmon, *Oncorhynchus tshawytscha*
Material: Photographs
Diagnosis: Fibroameloblastomas
Submitter: M. Katz

RTLA 260. Fish
Material: Three photographs; one gross specimen
Diagnosis: Fibroma
Submitter: M. Katz

RTLA 261. Coho salmon, *Oncorhynchus kisutch*
Material: One x-ray of jaw
Diagnosis: Ossifying fibroma or osteogenic sarcoma
Submitter: M. Katz

Material: One gross specimen
Diagnosis: Nematode infection
Submitter: E. Holland

RTLA 263. Caecilian, *Caecilia tentaculata*
Material: Two vials of tissue
Diagnosis: Hemangioma
Submitter: E. H. Taylor

RTLA 264. Dover sole, *Microstomus pacificus*
Material: Two whole specimens and tissue from another specimen
Diagnosis: Epidermal papilloma with chronic sub-epithelial inflammatory reaction
Submitter: J. S. Laurie

RTLA 265. Ratfish, *Hydrolagus colliei*
Material: Four claspers
Diagnosis: Inflammatory cells and fibrous tissue in response to fungal infection
Submitter: J. S. Laurie

RTLA 266. Flying lizard, *Draco*
Material: One gross specimen
Diagnosis: Presumptive subdermal infectious granuloma
Submitter: S. Campden-Main

RTLA 267. Cutthroat trout, *Salmo clarki*
Material: Three slides
Diagnosis: Leukemia
Submitter: C. E. Smith
RTLA 268. Coho salmon, *Oncorhynchus kisutch*
Material: Viscera
Diagnosis: Neurofibroma or neurilemmoma
Submitter: L. Margolis

RTLA 269. Apple snail, *Ampullarius australis*
Material: One slide; 1 photograph
Diagnosis: Adenomatous neoplasm associated with an inflammatory reaction
Submitter: K. Krieg

RTLA 270. Freshwater planarian, *Planaria dactyliogera musculosa*
Material: Three gross specimens; 1 block containing 3 planarians
Diagnosis: Anomalous regeneration; etiology unknown
Submitter: R. Kenk

RTLA 271. South American red-eared turtle, *Chrysemys scripta callirostris* (one specimen; Common red-eared turtle, *Chrysemys scripta elegans* (2 specimens)
Material: Three live specimens
Diagnosis: Dermititis
Submitter: A. Graves

RTLA 272. Red-spotted newt, *Notophthalmus viridescens*
Material: One gross specimen; 2 photographs
Diagnosis: Muscle disintegration due to nerve injury or mesenchymal cell neoplasm
Submitter: E. R. Burns

RTLA 273. Bloater, *Coregonus hoyi*
Material: Three gross specimens
Diagnosis: Myxomatous lesion induced by unidentified organism
Submitter: L. N. Allison

RTLA 274. Praying mantis
Material: Four slides; 2 gross specimens
Diagnosis: Black areas on cuticle
Submitter: G. E. Cosgrove

RTLA 275. Timber rattlesnake, *Crotalus horridus horridus*
Material: Two slides; blocks
Diagnosis: (1) Spleen: reticuloendothelial hyperplasia
(2) Intestines: acute ulcerative enteritis
(3) Wall of stomach and intestines: granuloma (parasitic); one contains larval cestode; one contains nematode
Submitter: G. E. Cosgrove
RTLA 276. Guppy (blue delta strain), *Poecilia reticulata*
Material: Thirteen gross specimens; 23 slides
Diagnosis: Acute bacterial infection with multiple granulomas in the mesentary and pancreatic tissue
Submitter: J. G. Bennett

RTLA 277. Channel catfish, *Ictalurus punctatus*
Material: Two whole fish
Diagnosis: Multiple encysted larvae of tapeworms (Cestoda), probably of genus *Proteocephalus* involving visceral serosal surface
Submitter: W. W. Tullner

RTLA 278. Leopard frog, *Rana pipiens*
Material: Two slides of spleen
Diagnosis: Infectious granuloma
Submitter: D. J. Olson and E. L. Cooper

RTLA 279. Leopard frog, *Rana pipiens*
Material: Two slides of tissue with parasitic lesions
Diagnosis: Granulomatous reaction to trematode parasites
Submitter: D. J. Olson and E. L. Cooper

RTLA 280. Crayfish, *Orconectes rusticus*
Material: Six slides of crayfish antennal gland
Diagnosis: Uric acid crystals
Submitter: J. Hubschman

RTLA 281. Brown bullhead, *Ictalurus nebulosus*
Material: One gross specimen
Diagnosis: Inflammatory lesion
Submitter: G. G. Combs

RTLA 282. Leopard frog, *Rana pipiens*
Material: Six slides and photographs
Diagnosis: Lucké renal adenocarcinoma
Submitter: C. Snell

RTLA 283. Coho salmon, *Oncorhynchus kisutch*
Material: One complete fish head
Diagnosis: Tissue too autolyzed for diagnosis
Submitter: L. N. Allison

RTLA 284. Coho salmon, *Oncorhynchus kisutch*
Material: Gills
Diagnosis: Thyroid tumor undergoing massive necrosis
Submitter: L. N. Allison

RTLA 285. Mosquito, *Anopheles annulipes*
Material: Three whole specimens; 8 slides
Diagnosis: Infection of salivary gland by *Pseudomonas* bacteria
Submitter: J. D. Briggs
RTLA 286. Coho salmon, *Oncorhynchus kisutch*
Material: A tumor from an adult female
Diagnosis: Fibroma
Submitter: D. G. MacLean

Material: One worm
Diagnosis: Bacterial infection with an encapsulating granuloma reaction
Submitter: H. L. Zimmack

RTLA 288. Brown bullhead, *Ictalurus nebulosus*
Material: One whole fish
Diagnosis: Epithelial carcinoma; granulomas in the liver
Submitter: G. G. Combs

RTLA 289. Brown bullhead, *Ictalurus nebulosus*
Material: One fish head
Diagnosis: Epidermal papilloma
Submitter: G. G. Combs

RTLA 290. Yellow bullhead, *Ictalurus natalis*
Material: One fish head and viscera
Diagnosis: Injury and wound repair
Submitter: G. G. Combs

RTLA 291. Sail lizard, *Hydrosaurus amboinensis*
Material: Eighteen slides
Diagnosis: Leucocyte infiltrations in liver, kidneys, lungs, heart and spleen; leukemia
Submitter: P. Zwart

RTLA 292. Striped bass, *Morone saxatilis*
Material: One piece of tissue; 24 slides
Diagnosis: Nephroblastoma
Submitter: C. F. Helmboldt

RTLA 293. Spiny-headed worm, *Macracanthorhynchus hirudinaceus*
Material: One worm
Diagnosis: Bacterial infection of damaged cuticle
Submitter: J. T. DeBell

RTLA 294. Surf clam, *Spisula solidissima*
Material: One clam
Diagnosis: Neuroma, neurofibroma, or fibroma
Submitter: W. Smith
<table>
<thead>
<tr>
<th>RTLA 295. Pacific hagfish, <em>Eptatretus stouti</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>Material: Ten slides</td>
</tr>
<tr>
<td>Diagnosis: Leucocyte infiltration in response to a fungal infection</td>
</tr>
<tr>
<td>Submitter: D. S. Linthicum</td>
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</tbody>
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<table>
<thead>
<tr>
<th>RTLA 296. Rainbow trout, <em>Salmo gairdneri</em></th>
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</thead>
<tbody>
<tr>
<td>Material: Four slides</td>
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<tr>
<td>Diagnosis: Hepatoma</td>
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<tr>
<td>Submitter: L. M. Ashley</td>
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<table>
<thead>
<tr>
<th>RTLA 297. Rainbow trout, <em>Salmo gairdneri</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>Material: One slide</td>
</tr>
<tr>
<td>Diagnosis: Hepatoma</td>
</tr>
<tr>
<td>Submitter: L. M. Ashley</td>
</tr>
<tr>
<td>Reprint: [see RTLA 296]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RTLA 298. Rainbow trout, <em>Salmo gairdneri</em></th>
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</thead>
<tbody>
<tr>
<td>Material: One slide</td>
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<tr>
<td>Diagnosis: Hepatoma</td>
</tr>
<tr>
<td>Submitter: L. M. Ashley</td>
</tr>
<tr>
<td>Reprint: [see RTLA 296]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RTLA 299. Rainbow trout, <em>Salmo gairdneri</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>Material: One slide</td>
</tr>
<tr>
<td>Diagnosis: Proliferation of bile duct and tubules</td>
</tr>
<tr>
<td>Submitter: L. M. Ashley</td>
</tr>
<tr>
<td>Reprint: [see RTLA 296]</td>
</tr>
</tbody>
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<thead>
<tr>
<th>RTLA 300. Rainbow trout, <em>Salmo gairdneri</em></th>
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<tbody>
<tr>
<td>Material: One slide</td>
</tr>
<tr>
<td>Diagnosis: Diffuse necrosis</td>
</tr>
<tr>
<td>Submitter: L. M. Ashley</td>
</tr>
<tr>
<td>Reprint: [see RTLA 296]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RTLA 301. Rainbow trout, <em>Salmo gairdneri</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>Material: One slide</td>
</tr>
<tr>
<td>Diagnosis: Proliferation of bile duct</td>
</tr>
<tr>
<td>Submitter: L. M. Ashley</td>
</tr>
<tr>
<td>Reprint: [see RTLA 296]</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>RTLA 302. Rainbow trout, <em>Salmo gairdneri</em></th>
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<tbody>
<tr>
<td>Material: One slide</td>
</tr>
<tr>
<td>Diagnosis: Acidophilic nodules</td>
</tr>
<tr>
<td>Submitter: L. M. Ashley</td>
</tr>
<tr>
<td>Reprint: [see RTLA 296]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RTLA 303. Brook trout, <em>Salvelinus fontinalis</em></th>
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</thead>
<tbody>
<tr>
<td>Material: Three slides</td>
</tr>
<tr>
<td>Diagnosis: Myxoma and granuloma</td>
</tr>
<tr>
<td>Submitter: L. M. Ashley</td>
</tr>
</tbody>
</table>
RTLA 304. Rainbow trout, *Salmo gairdneri*
Material: One slide
Diagnosis: Nephroblastoma
Submitter: L. M. Ashley
Reprint: [see RTLA 296]

RTLA 305. Rainbow trout, *Salmo gairdneri*
Material: One slide
Diagnosis: Reticulocytoma
Submitter: L. M. Ashley
Reprint: [see RTLA 296]

RTLA 306. Rainbow trout, *Salmo gairdneri*
Material: Three slides
Diagnosis: Normal stomach and intestine with trophozoite stages of *Entameba salmonis*
Submitter: L. M. Ashley

RTLA 307. Rainbow trout, *Salmo gairdneri*
Material: Two slides
Diagnosis: Reticulocytoma (?)
Submitter: L. M. Ashley
Reprint: [see RTLA 296]

RTLA 308. Rainbow trout, *Salmo gairdneri*
Material: Two slides
Diagnosis: Advanced hepatoma with spread to caeca and pyloric stomach
Submitter: L. M. Ashley
Reprint: [see RTLA 296]

RTLA 309. Rainbow trout, *Salmo gairdneri*
Material: One slide
Diagnosis: Reticulocytoma
Submitter: L. M. Ashley
Reprint: [see RTLA 296]

RTLA 310. Rainbow trout, *Salmo gairdneri*
Material: One slide
Diagnosis: Hepatoma with cystic cholangitis and inflammation of liver
Submitter: L. M. Ashley
Reprint: [see RTLA 296]

RTLA 311. Rainbow trout, *Salmo gairdneri*
Material: One slide
Diagnosis: Adenocarcinoma
Submitter: L. M. Ashley
Reprint: [see RTLA 296]

RTLA 312. Rainbow trout, *Salmo gairdneri*
Material: One slide
Diagnosis: Hepatoma
Submitter: L. M. Ashley
Reprint: [see RTLA 296]
**RTLA 313.** Rainbow trout, *Salmo gairdneri*
Material: One slide
Diagnosis: Adenocarcinoma
Submitter: L. M. Ashley
Reprint: [see RTLA 296]

**RTLA 314.** Rainbow trout, *Salmo gairdneri*
Material: One slide
Diagnosis: Nephroblastoma
Submitter: L. M. Ashley
Reprint: [see RTLA 296]

**RTLA 315.** Rainbow trout, *Salmo gairdneri*
Material: One slide
Diagnosis: Nephroblastoma
Submitter: L. M. Ashley
Reprint: [see RTLA 296]

**RTLA 316.** Rainbow trout, *Salmo gairdneri*
Material: One slide
Diagnosis: Incipient hepatoma
Submitter: L. M. Ashley
Reprint: [see RTLA 296]

**RTLA 317.** Rainbow trout, *Salmo gairdneri*
Material: One slide
Diagnosis: Hepatoma
Submitter: L. M. Ashley
Reprint: [see RTLA 296]

**RTLA 318.** Rainbow trout, *Salmo gairdneri*
Material: One slide
Diagnosis: Hepatoma
Submitter: L. M. Ashley
Reprint: [see RTLA 296]

**RTLA 319.** Rainbow trout, *Salmo gairdneri*
Material: One slide
Diagnosis: Hepatoma
Submitter: L. M. Ashley
Reprint: [see RTLA 296]

**RTLA 320.** Rainbow trout, *Salmo gairdneri*
Material: One slide
Diagnosis: Hepatitis with necrosis and hyperemia
Submitter: L. M. Ashley
Reprint: [see RTLA 296]

**RTLA 321.** Rainbow trout, *Salmo gairdneri*
Material: One slide
Diagnosis: Hepatoma
Submitter: L. M. Ashley
Reprint: [see RTLA 296]
RTLA 322. Rainbow trout, *Salmo gairdneri*
Material: One slide
Diagnosis: Incipient hepatoma
Submitter: L. M. Ashley
Reprint: [see RTLA 296]

RTLA 323. Rainbow trout, *Salmo gairdneri*
Material: One slide
Diagnosis: Hepatoma
Submitter: L. M. Ashley
Reprint: [see RTLA 296]

RTLA 324. Rainbow trout, *Salmo gairdneri*
Material: One slide
Diagnosis: Incipient hepatoma
Submitter: L. M. Ashley
Reprint: [see RTLA 296]

RTLA 325. Rainbow trout, *Salmo gairdneri*
Material: One slide
Diagnosis: Nephroblastoma
Submitter: L. M. Ashley
Reprint: [see RTLA 296]

RTLA 326. Rainbow trout, *Salmo gairdneri*
Material: Two slides
Diagnosis: Nephroblastoma
Submitter: L. M. Ashley
Reprint: [see RTLA 296]

RTLA 327. Dwarf clawed frog, *Hymenochirus boettgeri*
Material: Seven live frogs
Diagnosis: Developmental anomalies
Submitter: R. Wenk

RTLA 328. Brown bullhead, *Ictalurus nebulosus*
Material: Gross specimen with oral papillary growth
Diagnosis: Epidermal papilloma; granulomas in liver
Submitter: G. G. Combs

RTLA 329. Hooked mussel, *Brachidontes recurvus*
Material: Two gross specimens with mantle lesions
Diagnosis: Dermal granuloma
Submitter: A. C. Smith

RTLA 330. Fish
Material: Cleithrum with growth
Diagnosis: Osteophyte
Submitter: A. C. Smith
Reprint: [see RTLA 329]
RTLA 331. Sheepshead, *Archosargus probatocephalus*
Material: Enlarged ovaries
Diagnosis: Multiple granulomas
Submitter: A. C. Smith

RTLA 332. Sugar trout
Material: Viscera showing nodules on esophagus and stomach
Diagnosis: Multiple granulomas in response to gram negative rod-shaped bacteria
Submitter: A. C. Smith
Reprint: [see RTLA 329]

RTLA 333. Sheepshead, *Archosargus probatocephalus*
Material: Caudal fins with maculae
Diagnosis: Lymphocystis
Submitter: A. C. Smith
Reprint: [see RTLA 329]

RTLA 334. Sheepshead, *Archosargus probatocephalus*
Material: Liver with darkly colored wound
Diagnosis: Hemorrhage
Submitter: A. C. Smith

RTLA 335. Rock (stone?) crab
Material: Cephalothorax with white mottling.
Diagnosis: Externally infested with protozoa
Submitter: A. C. Smith

RTLA 336. Horseshoe crab, *Limulus polyphemus*
Material: Gross specimen with cuticular wound near left eye
Diagnosis: Indeterminant
Submitter: A. C. Smith

RTLA 337. Sea squirt
Material: Tunicate with barnacles attached
Diagnosis: Thinning or atrophy and condensation of the tunic at the juncture with the barnacles
Submitter: A. C. Smith

RTLA 338. Spotted eel
Material: Two pieces of body wall with dark (hemorrhagic) lesions
Diagnosis: Granuloma
Submitter: A. C. Smith
Reprint: [see RTLA 329]

RTLA 339. Crab
Material: Gross specimen with soft white area on right carapace
Diagnosis: External surface infected with protozoa and bacteria
Submitter: A. C. Smith

RTLA 340. Amphioxus, *Branchiostoma caribaeum*
Material: Gross specimen with darkened ventral depression near head
Diagnosis: Ulcerated area
Submitter: A. C. Smith
Reprint: [see RTLA 329]
RTLA 341. Sand dollar, *Dendraster eccentricus*
Material: Portion of animal with wound
Diagnosis: Pending
Submitter: A. C. Smith
Reprint: [see RTLA 329]

RTLA 342. Goby
Material: Gross specimen with swelling around the vent
Diagnosis: Rectal fistula with prolapse of anal mucosa and herniation of pancreas
Submitter: A. C. Smith

RTLA 343. Pinfish, *Lagodon rhomboides*
Material: Two gross specimens with elevated white lesions on the head
Diagnosis: Parasitic cyst and inflammation
Submitter: A. C. Smith
Reprint: [see RTLA 329]

RTLA 344. Sea hare, *Aplysia dactylomela*
Material: Two pieces of parapodia with white lesions on
Diagnosis: No significant histologic abnormality
Submitter: A. C. Smith

RTLA 345. Starfish, *Astropecten (?) sp.*
Material: One gross specimen with asymmetrical color pattern
Diagnosis: No significant histologic abnormality
Submitter: A. C. Smith

RTLA 346. Colonial tunicate with sponge
Material: Gross specimen with darkening of tunic at point of
Diagnosis: Tunic has collections of excretory microphages
Submitter: A. C. Smith

RTLA 347. Sponge
Material: Two pieces with coarse gray mottling
Diagnosis: No significant histologic abnormality
Submitter: A. C. Smith
Reprint: [see RTLA 329]

RTLA 348. Sponge
Material: Two species of sponges growing together; interface
Diagnosis: Pending
Submitter: A. C. Smith

RTLA 349. Fiddler crab, *Uca pugilator*
Material: Gross specimen with black protrusion on third left
Diagnosis: Brown pigmentation of cuticle; probably resulting
Submitter: A. C. Smith
Reprint: [see RTLA 329]
RTLA 350. Fiddler crab, *Uca pugilator*
Material: Three gross specimens with darkened areas on ventral cuticle
Diagnosis: Thickened cuticular laminae; no explanation
Submitter: A. C. Smith

RTLA 351. Turtle (Green sea?) *Chelonia mydas* (?)
Material: Two enlarged lymph pumps
Diagnosis: No significant histologic abnormality
Submitter: A. C. Smith

RTLA 352. Hermit crab, *Pagurus* sp.
Material: Gross specimen with abdominal swellings
Diagnosis: Thickened irregular focus in exoskeleton
Submitter: A. C. Smith
Reprint: [see RTLA 329]

RTLA 353. Pen shell
Material: Two pieces of mantle with black shiny growths
Diagnosis: Pearl forming cyst on mantle
Submitter: A. C. Smith

RTLA 354. Worm, *Nereis* (?) sp.
Material: Gross specimen with abrupt change in pigmentation
Diagnosis: Normal testis
Submitter: A. C. Smith

Material: Gross specimen with wound in parapodium
Diagnosis: Bacterial growth and necrosis under skin fold
Submitter: A. C. Smith

RTLA 356. Sea hare, *Aplysia dactylomela*
Material: Piece of tissue with soft elevated growth
Diagnosis: Developmental anomaly; all cells normal
Submitter: A. C. Smith
Reprint: [see RTLA 329]

RTLA 357. Sea hare, *Aplysia* sp.
Material: Gross specimen with pale patches
Diagnosis: Subepidermal edema
Submitter: A. C. Smith

RTLA 358. Sea hare, *Aplysia dactylomela*
Material: Gross specimen with large growth on right parapodium
Diagnosis: Developmental anomaly
Submitter: A. C. Smith
Reprint: [see RTLA 329]

RTLA 359. Sea anemone
Material: Gross specimen with brown protrusions on column
Diagnosis: Normal ova
Submitter: A. C. Smith
RTLA 360. Jellyfish
Material: Piece of tissue from bell containing dark bodies
Diagnosis: No histological lesion; gross diagnosis -- canicular system obstructed with sand
Submitter: A. C. Smith
Reprint: [see RTLA 329]

RTLA 361. Starfish (9-rayed)
Material: Ray missing a dorsal spine
Diagnosis: No histological lesion
Submitter: A. C. Smith
Reprint: [see RTLA 329]

RTLA 362. Red grouper, *Epinephelus morio*
Material: Viscera showing parasites
Diagnosis: Suspected parasites are impacted pyloric caeca
Submitter: A. C. Smith
Reprint: [see RTLA 329]

RTLA 363. Red grouper, *Epinephelus morio*
Material: Viscera showing parasitic worms
Diagnosis: Worms; unidentified
Submitter: A. C. Smith
Reprint: [see RTLA 329]

RTLA 364. Black sea bass, *Centropristis striata*
Material: Gross specimen with soft swelling anterior to dorsal fin
Diagnosis: Collection of proteinaceous edema believed to occur normally with the seasonal development of the testis
Submitter: A. C. Smith

RTLA 365. Sea hare, *Aplysia dactylomela*
Material: Gross specimen with an adhesion
Diagnosis: Developmental anomaly of parapodium
Submitter: A. C. Smith
Reprint: [see RTLA 329]

RTLA 366. Red grouper, *Epinephelus morio*
Material: Five pieces of liver with darkened areas
Diagnosis: Hemorrhage
Submitter: A. C. Smith

RTLA 367. Jellyfish
Material: Pieces of bell showing abnormal wrinkling
Diagnosis: Manifestation of dehydration
Submitter: A. C. Smith
Reprint: [see RTLA 329]

RTLA 368. Sea hare, *Aplysia dactylomela*
Material: Piece of parapodium with deep crypts
Diagnosis: Crypts extra deep, but otherwise normal
Submitter: A. C. Smith
RTLA 369. Colonial tunicate
  Material: Piece of tissue containing dark body
  Diagnosis: Parasite infection
  Submitter: A. C. Smith
  Reprint: [see RTLA 329]

RTLA 370. Horseshoe crab, Limulus polyphemus
  Material: Gross specimen with dark brown lesions on spine
  Diagnosis: Pending
  Submitter: A. C. Smith
  Reprint: [see RTLA 329]

RTLA 371. Colonial tunicate
  Material: Two pieces of tissue (each from a different species of tunicate) containing foreign material
  Diagnosis: Parasite infection
  Submitter: A. C. Smith
  Reprint: [see RTLA 329]

RTLA 372. Colonial tunicate
  Material: Pieces of tissue from several animals containing foreign material
  Diagnosis: Sand suspected
  Submitter: A. C. Smith

RTLA 373. Spanish mackerel, Scomberomorus maculatus
  Material: Pieces of body wall from several animals with copepod parasites
  Diagnosis: Acute inflammatory reaction with foreign body giant cells
  Submitter: A. C. Smith
  Reprint: [see RTLA 329]

RTLA 374. Spanish mackerel, Scomberomorus maculatus
  Material: Two pieces of body wall with wound
  Diagnosis: Acute inflammatory reaction similar to response seen at site of copepod attachment
  Submitter: A. C. Smith
  Reprint: [see RTLA 329]

RTLA 375. Spanish mackerel, Scomberomorus maculatus
  Material: Heads and body walls from several animals with multiple small protrusions
  Diagnosis: Cyst containing multiple spores of a parasite (coccidia)
  Submitter: A. C. Smith
  Reprint: [see RTLA 329]

RTLA 376. Sheepshead, Archosargus probatocephalus
  Material: Gill with enlarged filament
  Diagnosis: Contains parasitic worms
  Submitter: A. C. Smith
  Reprint: [see RTLA 329]
RTLA 377. Sheepshead, *Archosargus probatocephalus*  
Material: Liver with dark region  
Diagnosis: Normal liver and pancreas containing hemosiderin deposits  
Submitter: A. C. Smith

RTLA 378. Timber rattlesnake, *Crotalus horridus horridus*  
Material: Wet tissue  
Diagnosis: Lymphoblastic leukemia  
Submitter: L. A. Griner

RTLA 379. Rhinoceros viper, *Bitis nasicornis*  
Material: Twelve slides  
Diagnosis: Lymphosarcoma  
Submitter: L. A. Griner

RTLA 380. American bullfrog, *Rana catesbeiana*  
Material: Two slides of parathyroid glands  
Diagnosis: Huge cyst containing colloid-like substance  
Submitter: E. L. Cooper

RTLA 381. *Drosophila melanogaster*  
Material: One slide  
Diagnosis: Non-invasive imaginal disk tumor  
Submitter: E. Gateff  

RTLA 382. *Drosophila melanogaster*  
Material: One slide  
Diagnosis: Invasive; imaginal disks are abnormal in appearance and size  
Submitter: E. Gateff  
Reprint: [see RTLA 381]

RTLA 383. *Drosophila melanogaster*  
Material: One slide  
Diagnosis: Invasive cells, ganglion mother cells, and neuroblast cells  
Submitter: E. Gateff  
Reprint: [see RTLA 381]

RTLA 384. Brown bullhead, *Ictalurus nebulosus*  
Material: Fillet with external growths  
Diagnosis: Epidermal papilloma  
Submitter: G. G. Combs

RTLA 385. Brown bullhead, *Ictalurus nebulosus*  
Material: One head - one cm growth in corner of upper lip  
Diagnosis: Epidermal papilloma  
Submitter: G. G. Combs
RTLA 386. Yellow bullhead, *Ictalurus natalis*
Material: Gross specimen with small protrusion near left pectoral fin
Diagnosis: Epidermal (mucus cell) papilloma
Submitter: G. G. Combs

RTLA 387. Yellow bullhead, *Ictalurus natalis*
Material: Gross specimen with multiple raised lesions on dorsal and ventral surface of head
Diagnosis: Epidermal papilloma
Submitter: G. G. Combs

RTLA 388. Brown bullhead, *Ictalurus nebulosus*
Material: Rear portion of fish with one cm growth on anal fin
Diagnosis: Early lipoma
Submitter: G. G. Combs

RTLA 389. Brown bullhead, *Ictalurus nebulosus*
Material: Rear portion of fish with two protrusions anterior to rear dorsal fin
Diagnosis: Early lipoma
Submitter: G. G. Combs

RTLA 390. Yellow bullhead, *Ictalurus natalis*
Material: Gross specimen with growth in left corner of mouth on lower lip
Diagnosis: Fibrocartilage nodule; possibly caused by injury
Submitter: G. G. Combs

RTLA 391. Brown bullhead, *Ictalurus nebulosus*
Material: Fish head with soft lesion in right corner of mouth on lower lip
Diagnosis: Epidermal hyperplasia
Submitter: G. G. Combs

RTLA 392. Brown bullhead, *Ictalurus nebulosus*
Material: Fish head with one cm growth in floor of mouth
Diagnosis: Epidermal carcinoma
Submitter: G. G. Combs

RTLA 393. Brown bullhead, *Ictalurus nebulosus*
Material: Fish head with small lesion on upper lip
Diagnosis: Epidermal papilloma
Submitter: G. G. Combs

RTLA 394. Brown bullhead, *Ictalurus nebulosus*
Material: Fish head with lesion inside mouth in upper left corner
Diagnosis: Epithelial carcinoma
Submitter: G. G. Combs

RTLA 395. Brown bullhead, *Ictalurus nebulosus*
Material: Fish head with lesion inside left corner of mouth
Diagnosis: Epidermal papilloma
Submitter: G. G. Combs
| RTLA 396. Brown bullhead, *Ictalurus nebulosus*  
| Material: Fish tail with small lesion on right side  
| Diagnosis: Fibrous hyperplasia adjacent to ulcerated area  
| Submitter: G. G. Combs |
|---|---|---|---|
| RTLA 397. Yellow bullhead, *Ictalurus natalis*  
| Material: Fish midsection with slightly raised lateral lesion  
| Diagnosis: Epidermal papilloma  
| Submitter: G. G. Combs |
| RTLA 398. Brown bullhead, *Ictalurus nebulosus*  
| Material: Fish head with slightly raised dorsal lesion  
| Diagnosis: Epidermal papilloma  
| Submitter: G. G. Combs |
| RTLA 399. Brown bullhead, *Ictalurus nebulosus*  
| Material: Fish head and thorax with multiple slightly raised lesions  
| Diagnosis: Epidermal papilloma  
| Submitter: G. G. Combs |
| RTLA 400. Frillfin goby, *Bathygobius soporator*  
| Material: Gross specimen; growths on pectoral fin, jaw, and dorsum  
| Diagnosis: Hyperplastic epidermis; no invasion  
| Submitter: N. Rothman Feinberg |
| RTLA 401. Warmouth, *Lepomis gulosus*  
| Material: Gross specimen  
| Diagnosis: Non-diagnostic  
| Submitter: J. S. Laurie |
| RTLA 402. Chain pickerel, *Esox niger*  
| Material: Gross specimen  
| Diagnosis: Non-diagnostic  
| Submitter: J. S. Laurie |
| RTLA 403. Pickerel and Leopard frog hybrid, *Rana palustris* x *pipiens*  
| Material: Gross specimen with enlarged testis  
| Diagnosis: Teratocarcinoma  
| Submitter: J. D. Hardy, Jr.  
| RTLA 404. White croaker, *Genyonemus lineatus*  
| Material: Gross specimen with two oral growths  
| Diagnosis: Epidermal papilloma  
| Submitter: K. P. Lindstrom |
| RTLA 405. White croaker, *Genyonemus lineatus*  
| Material: Gross specimen with oral growth  
| Diagnosis: Epidermal papilloma  
| Submitter: K. P. Lindstrom |
RTLA 406. Yellow bullhead, *Ictalurus natalis*
Material: Four slides and posterior portion of fish with dermal lesion
Diagnosis: Cutaneous hemangioma or capillary hemangioma of the skin
Submitter: C. J. Dawe and B. J. Sanders

RTLA 407. Snail
Material: Gross specimen with protuberance behind head
Diagnosis: Developmental defect
Submitter: J. C. Stinson

RTLA 408. Leopard frog, *Rana pipiens*
Material: Two slides
Diagnosis: Hepatic necrosis
Submitter: E. Elkan

RTLA 409. Trinidad leaf frog, *Phyllomedusa trinitatis*
Material: One slide
Diagnosis: Renal mycosis
Submitter: E. Elkan

RTLA 410. White's tree frog, *Hyla caerulea*
Material: One slide
Diagnosis: Kidney showing multiple granulomas due to fungal infection; lesions contain numerous giant cells
Submitter: E. Elkan

RTLA 411. *Nyctimystes kubori*
Material: One slide
Diagnosis: Myxosporidiosis
Submitter: E. Elkan

RTLA 412. *Nyctimystes daymanio*
Material: One slide
Diagnosis: A cestode -- *Myxobolus*
Submitter: E. Elkan

RTLA 413. Flathead sole, *Hippoglossoides elassodon*
Material: Gross specimen with growth on eyed-side
Diagnosis: Epithelial papilloma; no invasion
Submitter: J. S. Laurie

RTLA 414. Clingfish, *Sicyogaster maeandricus*
Material: Gross specimen with abnormal area behind head
Diagnosis: Epidermal hyperplasia in response to parasitic ova
Submitter: J. S. Laurie

RTLA 415. Flathead sole, *Hippoglossoides elassodon*
Material: Gross specimen with large growth on tail fin
Diagnosis: Epidermal papilloma
Submitter: J. S. Laurie
RTLA 416. Ratfish, *Hydrolagus colliei*
Material: Tissue from region of left pectoral fin with growth; 2 slides
Diagnosis: Myxosarcoma
Submitter: J. S. Laurie

RTLA 417. Flathead sole, *Hippoglossoides elassodon*
Material: Gross specimen with growth on posterior part of dorsal fin
Diagnosis: Papilloma; angioepithelial nodule
Submitter: J. S. Laurie

RTLA 418. Square-marked toad, *Bufo regularis*
Material: Gross specimen with soft lump posterior to left eye
Diagnosis: Granuloma containing very small gram positive rod-shaped bacteria
Submitter: R. Crombie

RTLA 419. Dwarf-clawed frog, *Hymenochirus boettgeri*
Material: Twelve gross specimens with supernumerary legs
Diagnosis: Developmental anomalies
Submitter: R. Wenk

RTLA 420. Dwarf-clawed frog, *Hymenochirus boettgeri*
Material: Gross specimen with growth on lip
Diagnosis: Inflammatory lesion containing acid-fast bacteria
Submitter: R. Wenk

RTLA 421. Quahog, *Mercenaria mercenaria* or *Venus mercenaria*
Material: Two bottles of tissue
Diagnosis: Normal tissue
Submitter: A. C. Schmeer

RTLA 422. Spot, *Leiostomus xanthurus*
Material: Gross specimen with tumor at base of dorsal fin
Diagnosis: Abnormal fat deposit possibly early lipoma
Submitter: D. E. Ritchie

RTLA 423. Chinook salmon, *Oncorhynchus tshawytscha*
Material: Fish head with large firm dorsal growth and a small soft growth inside operculum
Diagnosis: Large tumor -- fibrolipoma; small tumor -- parasitic lesion containing myxosporidia -- genus *Henneguya*
Submitter: J. H. Wales

RTLA 424. Tokay gecko, *Gekko gecko*
Material: Head with raised area behind left eye
Diagnosis: Granuloma in response to *Actinomycetes*
Submitter: B. L. Burge

RTLA 425. English sole, *Parophrys vetulus*
Material: Gross specimen with multiple small lesions near fins
Diagnosis: Multiple granulomas adjacent to parasitic worms
Submitter: J. S. Laurie
RTLA 426. Flathead sole, *Hippoglossoides elassodon*
Material: Gross specimen with growth involving middle half of non-pigmented side
Diagnosis: Epidermal papilloma
Submitter: J. S. Laurie

RTLA 427. Flathead sole, *Hippoglossoides elassodon*
Material: Gross specimen with tumor on tail fin
Diagnosis: Epidermal papilloma
Submitter: J. S. Laurie

RTLA 428. Western diamondback rattler, *Crotalus atrox*
Material: Cyst-like growth from liver
Diagnosis: Granuloma due to large gram-positive rod-shaped bacteria
Submitter: J. T. Self

RTLA 429. Western diamondback rattler, *Crotalus atrox*
Material: Tissue -- growth from dorsal musculature
Diagnosis: Mycotic granuloma
Submitter: J. T. Self

RTLA 430. Coho salmon, *Oncorhynchus kisutch*
Material: Two pieces of tissue
Diagnosis: Sarcoma of probable peripheral nerve sheath origin
Submitter: G. R. Bell

RTLA 431. Atlantic salmon, *Salmo salar*
Material: Gross specimen with growth on gills
Diagnosis: Probable thyroid carcinoma; autolysis too advanced for definitive diagnosis
Submitter: J. W. Saunders

RTLA 432. Pencilfish, *Poecilobrycon harrisoni*
Material: Gross specimen with doughnut-shaped lesion around vent
Diagnosis: Anal epithelioma
Submitter: S. H. Weitzman

RTLA 433. Goldfish, *Carassius auratus*
Material: Gross specimen with multiple cuticular lesions
Diagnosis: Schlumberger's neurilemmoma versus fibrosarcoma
Submitter: B. M. Levy

RTLA 434. Goldfish, *Carassius auratus*
Material: Gross specimen with multiple cuticular lesions
Diagnosis: Schlumberger's neurilemmoma versus fibrosarcoma
Submitter: B. M. Levy
Reprint: [see RTLA 433]
RTLA 435. Leopard frog, *Rana pipiens*
Material: Two slides
Diagnosis: Teratoma
Submitter: J. C. Streett

RTLA 436. Staghorn coral, *Acropora* sp.
Material: Four specimens with large protuberances
Diagnosis: Reaction to trematode parasite suspected
Submitter: P. Glynn

RTLA 437. Leech, *Placobdella parasitica*
Material: Four slides
Diagnosis: Non-neoplastic papillary lesion representing injury and repair; pigment cells represent histiocytes transporting something -- presumably waste.
Submitter: G. E. Cosgrove

RTLA 438. Larva of Douglas-fir tussock moth, *Hemerocampa pseudotsugata*
Material: Gross specimen with supernumerary leg
Diagnosis: Developmental anomaly
Submitter: M. E. Martignoni

RTLA 439. Corn snake, *Elaphe guttata guttata*
Material: One paraffin block
Diagnosis: Multiple granulomas in response to fungal infection
Submitter: E. Elkan

RTLA 440. Coho salmon, *Oncorhynchus kisutch*
Material: Tissue from large caudal tumors
Diagnosis: Fibroma or fibrolipoma
Submitter: G. R. Bell

RTLA 441. Tiger python, *Python molurus*
Material: One paraffin block
Diagnosis: Adenoameloblastoma
Submitter: H. Trebbin

RTLA 442. Starfish, *Linckia multifora*
Material: Two gross specimens with protuberance on rays
Diagnosis: Parasitized by gastropod mollusk
Submitter: A. C. Smith

RTLA 443. A. *Homo sapiens* and B. *Drosophila melanogaster*
Material: Thirty-one paraffin blocks; 20 photographs; 3 lantern slides; 7 microscope slides (Dr. Mary B. Stark's material)
Diagnosis: (1) human gastric carcinoma; (2) lethal-7 *Drosophila* imaginal disk tumor; and (3) melanotic tumors of *Drosophila*
Submitter: L. Stark, J. Dahl, and D. Stark
RTLA 444. Bluefish, Pomatomus saltatrix
Material: Four slides
Diagnosis: Lymphangioendothelioma
Submitter: G. Gardner and M. M. Barry

RTLA 445. Longhorn sculpin, Myxocephalus octodecemspinosus
Material: One slide
Diagnosis: Testis maturation arrest
Submitter: G. Gardner and M. M. Barry

RTLA 446. Longhorn sculpin, Myxocephalus octodecemspinosus
Material: Four slides
Diagnosis: Teratocarcinoma-cystadenoma in the kidney
Submitter: G. Gardner and M. M. Barry

RTLA 447. Earthworm
Material: One slide
Diagnosis: Parasitic lesion; sporozoan suspected
Submitter: D. R. Helland

RTLA 448. Red-spotted newt, Notophthalmus viridescens
Material: Four slides
Diagnosis: Multiple granulomas in head due to ova or haplomycosis
Submitter: G. E. Cosgrove

RTLA 449. Gar, Lepisosteus sp.
Material: Five slides
Diagnosis: Oil granuloma
Submitter: B. M. Levy

RTLA 450. Coho salmon, Oncorhynchus kisutch
Material: Seven tissue samples including gills and viscera
Diagnosis: Thyroid hyperplasia
Submitter: D. R. Wolfert

RTLA 451. Coho salmon, Oncorhynchus kisutch
Material: Seven tissue samples including gills and viscera
Diagnosis: Thyroid hyperplasia
Submitter: D. R. Wolfert

RTLA 452. Coho salmon, Oncorhynchus kisutch
Material: Seven tissue samples including gills and viscera
Diagnosis: Thyroid hyperplasia
Submitter: D. R. Wolfert

RTLA 453. Coho salmon, Oncorhynchus kisutch
Material: Seven tissue samples including gills and viscera
Diagnosis: Thyroid hyperplasia
Submitter: D. R. Wolfert

RTLA 454. Coho salmon, Oncorhynchus kisutch
Material: Seven tissue samples including gills and viscera
Diagnosis: Thyroid hyperplasia
Submitter: D. R. Wolfert
RTLA 455A. & B.  
**Boa constrictor, Boa constrictor**

**Material:** One growth removed from side  
**Diagnosis:** Granuloma containing a mixed bacterial population  
**Submitter:** I. Gorman

RTLA 456.  
**Leopard frog, Rana pipiens**

**Material:** Fifty-nine black and white photomicrographs demonstrating various aspects of renal adenocarcinoma  
**Submitter:** W. R. Duryee  

RTLA 457.  
**Atlantic eel, Anguilla vulgaris**

**Material:** One eel head with oral cauliflower-like growth  
**Diagnosis:** Epithelial papilloma  
**Submitter:** B. F. Deys  

RTLA 458.  
**Atlantic eel, Anguilla vulgaris**

**Material:** One eel head with oral cauliflower-like growth  
**Diagnosis:** Epithelial papilloma  
**Submitter:** B. F. Deys  
**Reprint:** [see RTLA 457]

RTLA 459.  
**Atlantic eel, Anguilla vulgaris**

**Material:** One eel head with oral cauliflower-like growth  
**Diagnosis:** Epithelial papilloma  
**Submitter:** B. F. Deys  
**Reprint:** [see RTLA 457]

RTLA 460.  
**Iguana iguana**

**Material:** Four slides; two black and white photographs  
**Diagnosis:** Mucin producing adenocarcinoma arising in a teratoma  
**Submitter:** P. Zwart

RTLA 461.  
**Malayan monitor, Varanus salvator**

**Material:** Eleven slides; six black and white photographs  
**Diagnosis:** Lymphosarcoma  
**Submitter:** P. Zwart  

RTLA 462.  
**Two-flapped chameleon, Chamaeleo dilepis**

**Material:** Eight slides  
**Diagnosis:** Hyperplastic liver nodules versus well-differentiated hepatomas  
**Submitter:** P. Zwart
<table>
<thead>
<tr>
<th>RTLA 463.</th>
<th>Paddlefish, <em>Polyodon spathula</em></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Material:</strong></td>
<td>One piece of body wall with liver protruding; one slide</td>
</tr>
<tr>
<td><strong>Diagnosis:</strong></td>
<td>Fatty liver</td>
</tr>
<tr>
<td><strong>Submitter:</strong></td>
<td>C. E. Smith</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RTLA 464.</th>
<th>Rainbow trout, <em>Salmo gairdneri</em></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Material:</strong></td>
<td>Four pieces of tissue (eyes)</td>
</tr>
<tr>
<td><strong>Diagnosis:</strong></td>
<td>Cataract</td>
</tr>
<tr>
<td><strong>Submitter:</strong></td>
<td>C. E. Smith</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RTLA 465.</th>
<th>Corn snake, <em>Elaphe guttata guttata</em></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Material:</strong></td>
<td>Six slides</td>
</tr>
<tr>
<td><strong>Diagnosis:</strong></td>
<td>Chondrosarcoma</td>
</tr>
<tr>
<td><strong>Submitter:</strong></td>
<td>D. Small</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RTLA 466.</th>
<th>Guppy, <em>Poecilia reticulata</em></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Material:</strong></td>
<td>Two slides</td>
</tr>
<tr>
<td><strong>Diagnosis:</strong></td>
<td>Granuloma</td>
</tr>
<tr>
<td><strong>Submitter:</strong></td>
<td>D. Small</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th>RTLA 467.</th>
<th>Bluegill, <em>Lepomis macrochirus</em></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Material:</strong></td>
<td>One gross specimen</td>
</tr>
<tr>
<td><strong>Diagnosis:</strong></td>
<td>Fungus growing on back of fish and invading dorsal muscle and spinal canal</td>
</tr>
<tr>
<td><strong>Submitter:</strong></td>
<td>G. G. Combs</td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>RTLA 468.</th>
<th>Yellow bullhead, <em>Ictalurus natalis</em></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Material:</strong></td>
<td>One gross specimen</td>
</tr>
<tr>
<td><strong>Diagnosis:</strong></td>
<td>Epidermal papilloma</td>
</tr>
<tr>
<td><strong>Submitter:</strong></td>
<td>G. G. Combs</td>
</tr>
</tbody>
</table>

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<tr>
<td><strong>Material:</strong></td>
<td>One gross specimen</td>
</tr>
<tr>
<td><strong>Diagnosis:</strong></td>
<td>Epidermal papilloma</td>
</tr>
<tr>
<td><strong>Submitter:</strong></td>
<td>G. G. Combs</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th>RTLA 470.</th>
<th>Yellow bullhead, <em>Ictalurus natalis</em></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Material:</strong></td>
<td>One gross specimen</td>
</tr>
<tr>
<td><strong>Diagnosis:</strong></td>
<td>Epidermal papilloma</td>
</tr>
<tr>
<td><strong>Submitter:</strong></td>
<td>G. G. Combs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RTLA 471.</th>
<th>Yellow bullhead, <em>Ictalurus natalis</em></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Material:</strong></td>
<td>One gross specimen</td>
</tr>
<tr>
<td><strong>Diagnosis:</strong></td>
<td>Epidermal papilloma</td>
</tr>
<tr>
<td><strong>Submitter:</strong></td>
<td>G. G. Combs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RTLA 472.</th>
<th>Brown bullhead, <em>Ictalurus nebulosus</em></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Material:</strong></td>
<td>One gross specimen</td>
</tr>
<tr>
<td><strong>Diagnosis:</strong></td>
<td>Epidermal papilloma</td>
</tr>
<tr>
<td><strong>Submitter:</strong></td>
<td>G. G. Combs</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th>RTLA 473.</th>
<th>Brown bullhead, <em>Ictalurus nebulosus</em></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Material:</strong></td>
<td>One gross specimen</td>
</tr>
<tr>
<td><strong>Diagnosis:</strong></td>
<td>Epidermal papilloma</td>
</tr>
<tr>
<td><strong>Submitter:</strong></td>
<td>G. G. Combs</td>
</tr>
</tbody>
</table>
RTLA 474. Brown bullhead, *Ictalurus nebulosus*
Material: One gross specimen
Diagnosis: Epidermal papilloma
Submitter: G. G. Combs

RTLA 475. Brown bullhead, *Ictalurus nebulosus*
Material: One gross specimen
Diagnosis: Epidermal papilloma
Submitter: G. G. Combs

RTLA 476. "Robalo" - Patagonian shorefish, *Eleginops maclovinus*
Material: One half of a growth on side of body wall
Diagnosis: Inflammatory lesion, possibly caused by unidentified yeast-like bodies around the periphery of the growth
Submitter: A. E. Gosztonyi

RTLA 477 & 477A. Planarian, *Planaria dactyligera musculosa*
Material: (477) One gross specimen with finger-shaped outgrowths extending from the dorsal and lateral sides at about the middle of the body; (477A) One gross specimen with protrusion in middle of body on dorsal side
Diagnosis: Anomalous regeneration; etiology unknown
Submitter: R. Kenk

RTLA 478. California king snake, *Lampropeltis getulus*
Material: Wet tissue; two color transparencies
Diagnosis: Undifferentiated sarcoma
Submitter: R. E. Reed and G. Migaki

RTLA 479. Yellowfin goby, *Acanthogobius flavimanus*
Material: One microscope slide; three black and white photographs
Diagnosis: Epidermal papilloma
Submitter: S. Chun

RTLA 480. Yellowfin goby, *Acanthogobius flavimanus*
Material: One microscope slide; three black and white photographs
Diagnosis: Epidermal papilloma
Submitter: S. Chun

RTLA 481. *Doderleinia berycoides*
Material: One microscope slide; three black and white photographs
Diagnosis: Lymphocystis
Submitter: S. Chun

RTLA 482. Emerald lizard, *Lacerta viridis*
Material: Two microscope slides; one black and white photograph
Diagnosis: Epidermal papilloma
Submitter: J. Kridler

RTLA 483. Hermit crab, *Coenobita clypeatus*
Material: One gross specimen with an anterior lateral protrusion on the abdomen
Diagnosis: Granulomatous reaction to a branching septate fungus
Submitter: F. A. Chace, Jr.
RTLA 484. *Nosema juli* n. sp.
Material: Four microscope slides -- paratypes
Submitter: G. G. Wilson

RTLA 485. Gray snapper, *Lutjanus griseus*
Material: Body wall tissue with large growth
Diagnosis: Neurofibroma
Submitter: A. G. Armitt

RTLA 486. Timber rattlesnake, *Crotalus horridus horridus*
Material: One paraffin block and tissue fragments
Diagnosis: Fibrosarcoma
Submitter: H. C. Orr

RTLA 487. Leopard frog, *Rana pipiens*
Material: One microscope slide of kidney adenocarcinoma from the Dr. Balduin Lucké collection
Submitter: W. R. Duryee
Reprint: [see RTLA 456]

RTLA 488. Leopard frog, *Rana pipiens*
Material: One microscope slide
Diagnosis: Renal adenocarcinoma -- spontaneous tumor -- extremely numerous "transforming" tubules
Submitter: W. R. Duryee
Reprint: [see RTLA 456]

RTLA 489. Leopard frog, *Rana pipiens*
Material: One microscope slide
Diagnosis: Lung and kidney adenocarcinoma
Submitter: W. R. Duryee

RTLA 490. Leopard frog, *Rana pipiens*
Material: One microscope slide of a tissue culture
Diagnosis: Renal adenocarcinoma -- large nucleolar extrusion
Submitter: W. R. Duryee
Reprint: [see RTLA 456]

RTLA 491A. Leopard frog, *Rana pipiens*
Material: Two microscope slides
Diagnosis: Renal adenocarcinoma -- spontaneous tumor -- "very high malignancy"
Submitter: W. R. Duryee
Reprint: [see RTLA 456]

RTLA 491B. Leopard frog, *Rana pipiens*
Material: One microscope slide
Diagnosis: Papilloma on foreleg
Submitter: W. R. Duryee
RTLA 492. Leopard frog, *Rana pipiens*
Material: One microscope slide
Diagnosis: Renal adenocarcinoma
Submitter: W. R. Duryee
Reprint: [see RTLA 456]

Material: One gross specimen
Diagnosis: Multiple granulomas; bacteria suspected
Submitter: C. W. Shockley

RTLA 494. Pacific electric ray, *Torpedo californica*
Material: One microscope slide
Diagnosis: Liver lesions produced by hydatid-like cysts
Submitter: A. C. Smith


RTLA 495. White croaker, *Genyonemus lineatus*
Material: One gross specimen with growth centrally located on head just above the mouth
Diagnosis: Papilloma; granulomas in heart muscle
Submitter: K. P. Lindstrom

RTLA 496. Dover sole, *Microstomus pacificus*
Material: One gross specimen with "warty" lesions along the lateral line
Diagnosis: Ulcerated granulation tissue -- perhaps representing a sloughing healing stage of an epidermal papilloma
Submitter: K. P. Lindstrom

RTLA 497. Dover sole, *Microstomus pacificus*
Material: One gross specimen with several "whitish" growths about the eyes
Diagnosis: Angioepithelial nodules and epidermal papilloma
Submitter: K. P. Lindstrom

RTLA 498. Boa constrictor, *Boa constrictor*
Material: One microscope slide
Diagnosis: Epidermal papilloma
Submitter: R. B. Northway

RTLA 499. Carp, *Cyprinus carpio*
Material: Two pieces of tissue
Diagnosis: Neurilemmoma
Submitter: G. E. Cosgrove
RTLA 500. Florida pompano, *Trachinotus carolinus*
Material: Two microscope slides
Diagnosis: Thyroid hyperplasia versus low-grade follicular carcinoma
Submitter: R. E. Putz

RTLA 501. Red-spotted newt, *Notophthalmus viridescens*
Material: Four microscope slides
Diagnosis: Fungi (haplomycosis) versus parasite ova
Submitter: G. E. Cosgrove

RTLA 502. American oyster, *Crassostrea virginica*
Material: Ten microscope slides
Diagnosis: Diffuse sarcomoid neoplasm
Submitter: M. Newman

RTLA 503. Australian skink, *Egernia napoleonsis*
Material: One piece of liver tissue
Diagnosis: Mycobacterial granuloma
Submitter: E. Elkan

RTLA 504. Starry flounder, *Platichthys stellatus*
Material: One gross specimen with extremely numerous growths mostly on fins and pigmented side
Diagnosis: Granuloma in response to parasite ova plus epidermal hyperplasia
Submitter: B. F. Deys

RTLA 505. Starry flounder, *Platichthys stellatus*
Material: One gross specimen with growths on fins and top and bottom of head
Diagnosis: Granuloma in response to parasite ova with epidermal hyperplasia
Submitter: B. F. Deys

RTLA 506. Mexican axolotl, *Ambystoma mexicanum*
Material: Forty-six microscope slides
Diagnosis: Lymphoma
Submitter: L. E. DeLanney

RTLA 507. Everglade snake, *Elaphe obsoleta rossalenii*
Material: Two pieces of tissue; two microscope slides
Diagnosis: Malignant melanoma
Submitter: E. Elkan

RTLA 508. River jack or Rhinoceros viper, *Bitis nasicornis*
Material: Three microscope slides
Diagnosis: Granulocytic leukemia versus granulocytic leukemoid reaction
Submitter: R. L. Snyder
RTLA 509. Turtle, *Terrapene carolina*
Material: One gross specimen
Diagnosis: Bacterial granuloma
Submitter: C. Gans

RTLA 510. *Bufo arenarum*
Material: One microscope slide
Diagnosis: Infectious granuloma
Submitter: E. S. de Lustig

RTLA 511. Keyhole cichlid, *Aequidens maronii*
Material: One color transparency; one microscope slide
Diagnosis: Malignant lymphoma
Submitter: R. E. Wolke

RTLA 512. Killifish, *Fundulus* sp.
Material: Two gross specimens; one with a soft white protrusion in front of left eye
Diagnosis: Microsporida infection
Submitter: A. C. Smith and R. L. Taylor

RTLA 513. Firebellied newt, *Cynops pyrrhogaster*
Material: One gross specimen
Diagnosis: Papilloma
Submitter: W. R. Duryee

RTLA 514. Lake trout, *Salvelinus namaycush*
Material: Two pieces of tissue; one microscope slide
Diagnosis: Fibroma
Submitter: L. P. E. Choquette

RTLA 515. Angelfish
Material: Two microscope slides; one color transparency
Diagnosis: Melanoma involving eye
Submitter: L. E. Mawdesley-Thomas (via D. Bucke)

RTLA 516. Ide or Golden orfe, *Leuciscus idus*
Material: One microscope slide; one color transparency
Diagnosis: Papilloma with inflammation
Submitter: D. Bucke and L. E. Mawdesley-Thomas

RTLA 517. Cod, *Gadus morhua*
Material: One microscope slide
Diagnosis: Malignant melanoma infiltrating muscle tissue
Submitter: L. E. Mawdesley-Thomas (via D. Bucke)
Reprint: [see RTLA 515]
RTLA 518. Brown trout, *Salmo trutta*
Material: One microscope slide; one color transparency
Diagnosis: Fibroma
Submitter: L. E. Mawdesley-Thomas (via D. Bucke)

RTLA 519. Haddock, *Melanogrammus aeglefinus*
Material: Two microscope slides; one color transparency
Diagnosis: Fibroma
Submitter: L. E. Mawdesley-Thomas (via D. Bucke)
Reprint: [see RTLA 515]

RTLA 520. Sea morid
Material: Two microscope slides
Diagnosis: Parasitic (?) cyst
Submitter: L. E. Mawdesley-Thomas (via D. Bucke)
Reprint: [see RTLA 515]

RTLA 521. Whiting, *Merlangius merlangus*
Material: Two microscope slides
Diagnosis: Fibroma
Submitter: L. E. Mawdesley-Thomas (via D. Bucke)
Reprint: [see RTLA 515]

RTLA 522. Plaice, *Pleuronectes platessa*
Material: Two color transparencies
Diagnosis: Pigmented parasitic cyst
Submitter: L. E. Mawdesley-Thomas (via D. Bucke)

RTLA 523. Sandbar shark, *Carcharhinus milberti*
Material: Four microscope slides
Diagnosis: Reticulum cell sarcoma, spleen (only known example of a lymphoreticular or hematopoietic neoplasm in Chondrichthyes)
Submitter: R. O'Gara and V. T. Oliverio

RTLA 524. Sandbar shark, *Carcharhinus milberti*
Material: Fifteen microscope slides
Diagnosis: Granulomatous reaction to infection by acid-fast organism [*Mycobacterium (?)*, *Nocardia (?)*]
Submitter: R. O'Gara and V. T. Oliverio

RTLA 525. Walleye, *Stizostedion vitreum vitreum*
Material: Two pieces of tissue; two microscope slides
Diagnosis: Granulomas in response to fungi
Submitter: C. E. Smith

RTLA 526. Chinook salmon, *Oncorhynchus tshawytscha*
Material: Kidney
Diagnosis: Well-differentiated nephroblastoma with lithiasis
Submitter: J. G. Hnath

RTLA 527. Rainbow trout, *Salmo gairdneri*
Material: Liver
Diagnosis: Hepatoma
Submitter: J. G. Hnath
RTLA 528. Plaice, Pleuronectes platessa
Material: One paraffin block
Diagnosis: Inflammation
Submitter: R. Roberts

RTLA 529. Plaice, Pleuronectes platessa
Material: One paraffin block
Diagnosis: Inflammation
Submitter: R. Roberts

RTLA 530. Coho salmon, Oncorhynchus kisutch
Material: Large tumor; one color photograph
Diagnosis: Fibroma
Submitter: G. R. Bell

RTLA 531. Tilehorned prionus -- larvae, Prionus imbricornis
Material: Twenty-nine microscope slides
Diagnosis: Multiple granulomas in hemocoel
Submitter: G. E. Cosgrove

RTLA 532. Elephant trunk snake, Acrochordus javanicus
Material: Two microscope slides; one photograph
Diagnosis: Ovarian fibroma
Submitter: P. Zwart

RTLA 533. Coho salmon, Oncorhynchus kisutch
Material: One gross specimen
Diagnosis: Osteoma
Submitter: J. G. Hnath

RTLA 534. Red-spotted newt, Notophthalmus viridescens
Material: Three microscope slides
Diagnosis: Adiaspiromycosis
Submitter: G. E. Cosgrove

RTLA 535. Enchytraeus sp.
Material: Gross specimens from colony with reduced reproduction
Diagnosis: Parasitized by nematodes
Submitter: G. E. Cosgrove

RTLA 536. Sheepshead minnow, Cyprinodon variegatus
Material: One gross specimen with seven large surface protrusions
Diagnosis: Parasitic lesions in response to Myxosporida
Submitter: B. B. Collette and M. Wiley

RTLA 537. Freshwater bivalve, Dreissena polymorpha
Material: Six microscope slides
Diagnosis: Granuloma
Submitter: B. S. Morton

RTLA 538. Black-lip pearl oyster, Pinctada margaratifera
Material: Two photographs; eight microscope slides
Diagnosis: Benign fibrovascular polyp
Submitter: T. G. Dix
RTLA 539. Firebellied newt, *Cynops pyrrhogaster*
Material: One gross specimen
Diagnosis: Epidermal papilloma
Submitter: W. R. Duryee

RTLA 540. Firebellied newt, *Cynops pyrrhogaster*
Material: One gross specimen
Diagnosis: Papilloma
Submitter: W. R. Duryee

RTLA 541. *Chlamys* (Lyropecten) *madisonius* (fossil specimen)
Material: Gross specimen -- left valve only -- formation anterior to the muscle scar
Diagnosis: Blister between two layers of foliated calcite with a hole, presumably drilled by a parasite, to the surface
Submitter: M. O'Keefe

RTLA 542. *Panope americana* (fossil specimen)
Material: Gross specimen -- left valve only -- formation underneath the umbo
Diagnosis: Reactive deposition of presumptive conchiolin
Submitter: M. O'Keefe

RTLA 543. *Panope americana* (fossil specimen)
Material: Gross specimen -- right valve only -- formation anterior and below the pallial sinus
Diagnosis: Reactive deposition of presumptive conchiolin
Submitter: M. O'Keefe

RTLA 544. *Panope americana* (fossil specimen)
Material: Gross specimen -- left valve only -- formation just posterior to the anterior muscle scar
Diagnosis: Reactive deposition of presumptive conchiolin
Submitter: M. O'Keefe

RTLA 545. *Panope americana* (fossil specimen)
Material: Gross specimen -- left valve only -- formation centrally located just beneath the pallial line
Diagnosis: Reactive deposition of presumptive conchiolin
Submitter: M. O'Keefe

RTLA 546. Largetooth sawfish, *Pristis perotteti*
Material: Two microscope slides
Diagnosis: Wound repair
Submitter: T. B. Thorson

RTLA 547. Bull shark, *Carcharhinus leucas*
Material: Two microscope slides
Diagnosis: Wound repair
Submitter: T. B. Thorson

RTLA 548. South American gartersnake, *Liophis* sp.
Material: One piece of tissue; one color transparency
Diagnosis: Muscle degeneration due to mechanical injury
Submitter: J. A. Peters
RTLA 549. White croaker, \textit{Genyonemus lineatus}  
Material: Four microscope slides; two black and white photographs  
Diagnosis: Epidermal papilloma  
Submitter: A. Lawson Bane, A. Thompson, K. P. Lindstrom, Dr. Pflaum

RTLA 550. Cunner, \textit{Tautogolabrus adspersus}  
Material: One gross specimen  
Diagnosis: Epidermal papilloma  
Submitter: G. W. Bane and S. Shumway

RTLA 551. Cunner, \textit{Tautogolabrus adspersus}  
Material: One gross specimen  
Diagnosis: Epidermal papilloma  
Submitter: G. W. Bane and S. Shumway

RTLA 552. Cunner, \textit{Tautogolabrus adspersus}  
Material: One gross specimen  
Diagnosis: Epidermal papilloma  
Submitter: G. W. Bane and S. Shumway

RTLA 553. Cunner, \textit{Tautogolabrus adspersus}  
Material: One gross specimen  
Diagnosis: Epidermal papilloma  
Submitter: G. W. Bane and S. Shumway

RTLA 554. Dwarf gourami, \textit{Colias lalia}  
Material: One gross specimen; three black and white photographs; two color transparencies  
Diagnosis: Granuloma  
Submitter: C. A. Green and C. J. Dawe

RTLA 555. Fish  
Material: Three gross specimens  
Diagnosis: Death by asphyxiation  
Submitter: G. C. Williams

RTLA 556. Cobra, \textit{Naja naja}  
Material: One piece of pancreatic tissue and a growth found in the peritoneal membrane  
Diagnosis: Granuloma  
Submitter: V. Lance

RTLA 557. Cobra, \textit{Naja naja}  
Material: One piece of liver tissue  
Diagnosis: Granuloma  
Submitter: V. Lance

RTLA 558. Cobra, \textit{Naja naja}  
Material: Two pieces of liver tissue  
Diagnosis: Granuloma  
Submitter: V. Lance

RTLA 559. Cobra, \textit{Naja naja}  
Material: Gall bladder  
Diagnosis: Granuloma  
Submitter: V. Lance
RTLA 560. Cobra, *Naja naja*
Material: One piece of liver tissue and one piece of rectal tissue
Diagnosis: Leiomyosarcoma
Submitter: V. Lance

RTLA 561. Cobra, *Naja naja*
Material: Two paraffin blocks of liver tissue
Diagnosis: Granuloma
Submitter: V. Lance

RTLA 562. Crayfish, *Procambarus clarkii*
Material: Twenty-six vials of gross specimens; 300-400 microscope slides; 100-200 photographs
Diagnosis: Tubular cell hyperplasia in the hepatopancreas and degeneration of the antennal glands due to the effects of N-nitrosodimethylamine
Submitter: J. C. Harshbarger, G. E. Cantwell, and M. F. Stanton

RTLA 563. Pecan weevil, *Curculio caryae*
Material: Four gross specimens (grubs)
Diagnosis: Infected with *Metarrhizium* fungus
Submitter: G. E. Cosgrove and W. L. Tedders

RTLA 564. Pecan weevil, *Curculio caryae*
Material: Five gross specimens (grubs)
Diagnosis: Infected with Beauveria fungus
Submitter: G. E. Cosgrove and W. L. Tedders

RTLA 565. Eel, *Ilyophis brunneus*
Material: One gross specimen with enlargement on cranium
Diagnosis: Normal muscle
Submitter: R. H. Kanazawa

RTLA 566. Rainbow trout, *Salmo gairdneri*
Material: Five microscope slides
Diagnosis: General toxicosis and a small hepatoma in the liver
Submitter: C. E. Smith

RTLA 567. Rainbow trout, *Salmo gairdneri*
Material: Four microscope slides
Diagnosis: General toxicosis
Submitter: C. E. Smith

RTLA 568. Rainbow trout, *Salmo gairdneri*
Material: Three microscope slides
Diagnosis: General toxicosis
Submitter: C. E. Smith
RTLA 569. Scallop, *Aequipecten irradians*
Material: Adductor muscles
Diagnosis: Granuloma in response to gram-positive bacteria
Submitter: E. J. Petrovits

RTLA 570. *Oncorhynchus rhodurus f. macrostomus*
Material: Six microscope slides
Diagnosis: Liver -- hepatoma; stomach -- adenomatous polyps of gastric mucosa
Submitter: I. Kimura

RTLA 571. *Oncorhynchus rhodurus f. macrostomus*
Material: Six microscope slides
Diagnosis: Liver -- hepatoma; stomach -- adenomatous polyps of gastric mucosa
Submitter: I. Kimura

RTLA 572. *Oncorhynchus masou ishikawae*
Material: One microscope slides; one piece of tissue
Diagnosis: Multiple well-differentiated hepatomas
Submitter: F. Takashima

RTLA 573. *Salvelinus miyabei x S. fontinalis*
Material: Two microscope slides; one piece of tissue
Diagnosis: Subcutaneous fibrosarcoma; metastatic fibrosarcoma of kidney
Submitter: F. Takashima

RTLA 574. Coho salmon, *Oncorhynchus kisutch*
Material: Two pieces of wet thyroid tissue
Diagnosis: Normal
Submitter: L. M. Ashley

RTLA 575. Channel catfish, *Ictalurus punctatus*
Material: Two microscope slides
Diagnosis: Viral inclusions
Submitter: C. E. Smith

RTLA 576A, B, C. Fungus, *Emmonsia crescens*
Material: Liver tissue from a monkey, pack rat, and guinea pig
Diagnosis: Experimental infection
Submitter: W. L. Jellison

Material: Collection contains meticulously kept data books, hundreds of reprints, photographs, and paraffin blocks and approximately 12,000 microscope slides of naturally occurring,
experimentally induced and tissue culture material from the Lucké renal adenocarcinoma of Rana pipiens including some of Dr. Lucké's original slides. The collection also contains several hundred slides of tumors (principally papillomas) of the red-spotted newt, Cynops pyrrhogaster and microscope slides from Ambystoma opacum larvae used in experimental studies.

Submitter: W. R. Duryee
Reprint: [see RTLA 456]

RTLA 578. Planarian, Dugesia dorotocephala
Material: Six pieces of tissue; five black and white photographs; one film strip
Diagnosis: Anomalous regeneration; etiology unknown
Submitter: R. Kenk

RTLA 579. Earthworm, Lumbricus terrestris
Material: Seven vials of pieces of worm; two color transparencies
Diagnosis: Worms experimentally treated with the pesticide, Carbofuran
Submitter: A. P. Gilman

RTLA 580. Coho salmon, Oncorhynchus kisutch
Material: Four pieces of thyroid tissue
Diagnosis: Normal
Submitter: W. T. Yasutake

RTLA 581. Manure worm, Eisenia foetida
Material: One color transparency
Diagnosis: Worm experimentally treated with the pesticide, Carbofuran
Submitter: A. P. Gilman

RTLA 582. Yellow bullhead, Ictalurus natalis
Material: One gross specimen
Diagnosis: Papilloma
Submitter: G. G. Combs

RTLA 583. Catfish, Ictalurus sp.
Material: One gross specimen
Diagnosis: Papilloma
Submitter: G. G. Combs

RTLA 584. Yellow bullhead, Ictalurus natalis
Material: One gross specimen
Diagnosis: Nevus
Submitter: G. G. Combs

RTLA 585. Bluegill, Lepomis macrochirus
Material: One gross specimen with unusually shallow dorsal muscle and unusually short dorsal fin
Diagnosis: Developmental anomaly
Submitter: D. Gaines
RTLA 586. Bluegill, *Lepomis macrochirus*
Material: One gross specimen
Diagnosis: Granulomas associated with defect in skeletal muscle adjacent to anal fin
Submitter: D. Gaines

RTLA 587. Dinosaur, *Allosaurus fragilis*
Material: Petrified bones
Diagnosis: Various examples of callus formation, osteomyelitis and perhaps ankylosis
Submitter: J. H. Madsen, Jr. and M. A. Carey

RTLA 588. Boa constrictor, *Boa constrictor*
Material: One piece of tissue
Diagnosis: Fibroma versus fibrocarcinoma
Submitter: B. L. Burge

RTLA 589. Atlantic salmon, *Salmo salar*
Material: Five microscope slides
Diagnosis: Epidermal carcinoma
Submitter: R. J. Roberts

RTLA 590. Rainbow trout, *Salmo gairdneri*
Material: Three microscope slides
Diagnosis: Unusual cells in the liver and the spleen believed to be a protozoan parasite. (Reminiscent of Leishmania).
Submitter: R. J. Roberts

RTLA 591. Alpine newt, *Triturus alpestris*
Material: One microscope slide
Diagnosis: Neuroepithelioma
Submitter: J. Darquenne

RTLA 592. Rainbow trout, *Salmo gairdneri*
Material: One microscope slide
Diagnosis: Hepatoma
Submitter: C. E. Smith

RTLA 593. Shortnose batfish, *Ogcocephalus nasutus*
Material: One microscope slide
Diagnosis: Lymphocystis -- the growth was 2-3 c. in diameter and was located on the caudal peduncle of the specimen
Submitter: C. E. Smith

RTLA 594. *Cichlasoma festivum*
Material: Three pieces of stomach tissue; one microscope slide
Diagnosis: Gastric leiomyoma
Submitter: R. Bootsma
RTLA 595A. & B. Coho salmon, *Oncorhyncus kisutch*
Material: 595A -- five emaciated, lethargic fingerlings
595B -- five normal fingerlings
Diagnosis: No histologic lesions
Submitter: J. G. Hnath

RTLA 596. Striped mojarra, *Diapterus plumieri*
Material: One gross tumor specimen; six microscope slides
Diagnosis: Lipoma -- this striped mojarra is reported as the thirteenth fish known with a lipoma
Submitter: F. J. Schwartz

Material: One gross specimen
Diagnosis: Malignant melanoma
Submitter: E. L. King, Jr.

RTLA 598. Tilehorned prionus, *Prionus imbricornis*
Material: Four pieces of larvae
Diagnosis: Extensive fungal invasion
Submitter: G. E. Cosgrove and J. A. Payne

RTLA 599. Staghorn coral, *Acropora formosa*
Material: Three microscope slides
Diagnosis: Polyp; possibly in response to trematode parasite
Submitter: D. P. Cheney

RTLA 600. White perch, *Morone americana*
Material: One gross specimen with a large, soft, spongy swelling on the ventral side posterior to the gills and extending to the anal fin
Diagnosis: Biliary duct cyst
Submitter: D. Ritchie and B. B. Collette

RTLA 601. White perch, *Morone americana*
Material: One gross specimen with excessive mucus secretion
Diagnosis: Pending
Submitter: D. Ritchie and B. B. Collette
RTLA 602. Australian rock oyster, *Crassostrea commercialis*
Material: Four microscope slides
Diagnosis: Polypoid pericardial tumor of Leydig cell origin
Submitter: P. Dinamani

RTLA 603. Longnose gar, *Lepisosteus osseus*
Material: Eight microscope slides; one photograph
Diagnosis: Benign epithelioma on the pelvic fin
Submitter: J. D. Hendricks

RTLA 604. Staghorn coral, *Acropora formosa*
Material: One gross specimen
Diagnosis: Polyp; possibly in response to trematode parasite
Submitter: D. P. Cheney
Reprints: [see RTLA 599]

RTLA 605. Staghorn coral, *Acropora formosa*
Material: One gross specimen
Diagnosis: Polyp; possibly in response to trematode parasite
Submitter: D. P. Cheney
Reprints: [see RTLA 599]

RTLA 606. Staghorn coral, *Acropora formosa*
Material: One gross specimen
Diagnosis: Polyp; possibly in response to trematode parasite
Submitter: D. P. Cheney
Reprints: [see RTLA 599]

RTLA 607. Guppy, *Poecilia reticulata*
Material: One gross specimen
Diagnosis: Developmental defect composed of striated muscle and bone
Submitter: J. S. Laurie

RTLA 608. Weakfish, *Cynoscion regalis*
Material: Eight microscope slides; two photographs
Diagnosis: Early well-differentiated lipoma versus developmental anomaly
Submitter: J. D. Hendricks

RTLA 609. Hogchoker, *Trinectes maculatus*
Material: Six microscope slides
Diagnosis: Well-differentiated lipoma or anomalous deposit
Submitter: M. W. Newman

RTLA 610. Croaker
Material: Three consecutive caudal vertebrae
Diagnosis: Multiple exostosis of the neural and haemal spines
Submitter: M. Landolt
RTLA 611. Croaker
Material: Two consecutive caudal vertebrae
Diagnosis: Multiple exostosis of the neural and haemal spines
Submitter: M. Landolt

RTLA 612. Walleye, *Stizostedion vitreum vitreum*
Material: Part of the caudal fin with part of a tumor attached; four microscope slides; fourteen photographs
Diagnosis: Cutaneous fibroma
Submitter: D. Woronecki

RTLA 613. White catfish, *Ictalurus catus*
Material: One piece of tissue; four microscope slides; two photographs
Diagnosis: Reticulum cell sarcoma
Submitter: M. Landolt

RTLA 614. African clawed toad, *Xenopus laevis*
Material: One hind leg
Diagnosis: Chondrification associated with hemorrhage and repair
Submitter: G. E. Cosgrove

RTLA 615. Earthworm, *Lumbricus terrestris*
Material: Portions of two worms experimentally treated with 11 ug Carbofuran; one with an enlarged area
Diagnosis: Heavy nematode infection
Submitter: A. P. Gilman

RTLA 616. Earthworm, *Lumbricus terrestris*
Material: One whole and two portions of worms experimentally treated with 5 ug of a Carbofuran metabolite, 3-hydroxycarbofuran showing blister-like lesions
Diagnosis: Heavy nematode infection
Submitter: A. P. Gilman

RTLA 617. Earthworm, *Lumbricus terrestris*
Material: One gross specimen experimentally treated with 57 ug of a Carbofuran metabolite, 3-hydroxycarbofuranphenol showing blister-like lesions
Diagnosis: Heavy nematode infection
Submitter: A. P. Gilman

RTLA 618. Earthworm, *Lumbricus terrestris*
Material: One gross specimen experimentally treated with ug Bux (a carbamate insecticide) showing collar-like protrusions
Diagnosis: Heavy nematode infection
Submitter: A. P. Gilman

RTLA 619. Earthworm, *Lumbricus terrestris*
Material: Whole and one portion of worm experimentally treated with 17 ug Lannate (a carbamate insecticide) showing numerous blister-like lesions
Diagnosis: Heavy nematode infection
Submitter: A. P. Gilman
RTLA 620. Yellow bullhead, *Ictalurus natalis*
Material: One gross specimen
Diagnosis: Melanoma
Submitter: J. A. Couch

RTLA 621. Yellow bullhead, *Ictalurus natalis*
Material: One gross specimen
Diagnosis: Melanoma
Submitter: J. A. Couch

RTLA 622. Rainbow trout, *Salmo gairdneri*
Material: Branchial arch with enlarged thyroid; two microscope slides
Diagnosis: Follicular adenocarcinoma of the thyroid
Submitter: E. Mateo and M. Landolt

RTLA 623A. & B. Northern pike, *Esox lucius*
Material: One gross specimen with two ulcerative lesions along the dorsal surface
Diagnosis: Probable lymphosarcoma -- tissue too autolyzed for confirmation
Submitter: E. R. Brown

RTLA 624. Walleye, *Stizostedion vitreum vitreum*
Material: One gross specimen with multiple nodular growths
Diagnosis: Lymphocystis
Submitter: E. R. Brown

RTLA 625. Walleye, *Stizostedion vitreum vitreum*
Material: One gross specimen with soft blister-like growths in the webbing of the caudal fin
Diagnosis: Lymphocystis
Submitter: E. R. Brown

RTLA 626. Walleye, *Stizostedion vitreum vitreum*
Material: One gross specimen with a mid-lateral protrusion on the right side just posterior to the operculum
Diagnosis: Probable neurilemmoma -- tissue too autolyzed for confirmation
Submitter: E. R. Brown

RTLA 627. Walleye, *Stizostedion vitreum vitreum*
Material: One gross specimen with soft blister-like growths in the webbing of all the fins
Diagnosis: Lymphocystis
Submitter: E. R. Brown

RTLA 628. Ghost shrimp, *Callianassa affinis*
Material: Three microscope slides
Diagnosis: Digestive gland and integument lesions associated with malnutrition
Submitter: A. C. Smith
RTLA 629. Rainbow trout, *Salmo gairdneri*
Material: Most of the upper jaw with part of a growth broadly attached to the outside surface; one photograph
Diagnosis: Fibroma
Submitter: P. H. Wolf

RTLA 630. Rainbow trout, *Salmo gairdneri*
Material: Fifteen microscope slides; one photograph
Diagnosis: Thymic lymphoma -- probably with leukemia
Submitter: C. E. Smith

RTLA 631. Australian snake-necked turtle, *Chelodina longicollis*
Material: Growth from the dorsal side of the proximal end of the neck
Diagnosis: Multiple granulomas with a bacterial etiology
Submitter: W. Frair

RTLA 632. Nile monitor lizard, *Varanus niloticus*
Material: Four microscope slides
Diagnosis: Pre-neoplastic nodule versus a minimal deviation hepatoma
Submitter: P. Zwart

RTLA 633. African sungazer lizard, *Cordylus polyzonus*
Material: Two microscope slides
Diagnosis: Adenoma of the thyroid
Submitter: P. Zwart

RTLA 634. Garter snake, *Thamnophis sirtalis*
Material: Two microscope slides
Diagnosis: Cholangioma
Submitter: P. Zwart

RTLA 635. Nile monitor lizard, *Varanus niloticus*
Material: Seven microscope slides
Diagnosis: Probable plasma cell tumor
Submitter: P. Zwart

RTLA 636. Thorny skate, *Raja radiata*
Material: One greatly enlarged testis
Diagnosis: Adenoma of seminiferous epithelium (tentative)
Submitter: M. Newman

RTLA 637. Tiger swallowtail, *Papilio glaucus*
Material: One gross specimen with a growth approximately .5 cm. in diameter on the abdomen
Diagnosis: Salivary reservoir cyst containing bacteria and fungi
Submitter: K. Wolf

RTLA 638. Walleye, *Stizostedion vitreum vitreum*
Material: One gross specimen with multiple raised lesions
Diagnosis: Epidermal hyperplasia
Submitter: E. R. Brown

RTLA 639. White sucker, *Catostomus commersoni*
Material: One gross specimen
Diagnosis: Tissue unsuitable for diagnosis
Submitter: E. R. Brown
RTLA 640. Northern pike, *Esox lucius*
Material: One gross specimen
Diagnosis: Epidermal hyperplasia
Submitter: E. R. Brown

RTLA 641. Walleye, *Stizostedion vitreum vitreum*
Material: One gross specimen
Diagnosis: Epidermal hyperplasia
Submitter: E. R. Brown

RTLA 642. Walleye, *Stizostedion vitreum vitreum*
Material: One gross specimen
Diagnosis: Epidermal hyperplasia
Submitter: E. R. Brown

RTLA 643. Walleye, *Stizostedion vitreum vitreum*
Material: One gross specimen
Diagnosis: Epidermal hyperplasia
Submitter: E. R. Brown

RTLA 644. Northern pike, *Esox lucius*
Material: One gross specimen
Diagnosis: Epidermal hyperplasia
Submitter: E. R. Brown

RTLA 645. White sucker, *Catostomus commersoni*
Material: One gross specimen
Diagnosis: Epidermal hyperplasia
Submitter: E. R. Brown

RTLA 646. White sucker, *Catostomus commersoni*
Material: One gross specimen
Diagnosis: Cutaneous papilloma
Submitter: E. R. Brown

RTLA 647. Northern pike, *Esox lucius*
Material: One fish head
Diagnosis: Epidermal hyperplasia
Submitter: E. R. Brown

RTLA 648. Kahawai, *Arripis trutta*
Material: Portion of the right body wall containing one-half of a growth
Diagnosis: Well-differentiated lipoma
Submitter: P. M. Hine

RTLA 649. Sheepshead, *Archosargus probatocephalus*
Material: A piece of body wall consisting of normal appearing tissue with a growth attached to the outer surface
Diagnosis: Guanophoroma
Submitter: W. E. Ribelin

RTLA 650. Croaker
Material: One microscope slide
Diagnosis: Neuroblastoma; retinoneuroblastoma
Submitter: M. M. Sigel
RTLA 651. Green turtle, *Chelonia mydas*
Material: Six microscope slides
Diagnosis: Fibropapilloma
Submitter: R. M. Overstreet

RTLA 652. Lingcod, *Ophiodon elongatus*
Material: One piece of tissue
Diagnosis: Lymphocystis
Submitter: G. R. Bell

RTLA 653. Sockeye salmon, *Oncorhynchus nerka*
Material: An excised growth
Diagnosis: Papillary adenocarcinoma
Submitter: G. R. Bell

RTLA 654. Florida softshell (turtle), *Trionyx ferox*
Material: Three microscope slides
Diagnosis: Granulocytic neoplasm versus a reticulum cell sarcoma
Submitter: P. Zwart

RTLA 655. Goldfish, *Carassius auratus*
Material: The right half of the head and a transverse section through the gill chamber
Diagnosis: Fibroma
Submitter: E. C. Bay

RTLA 656. Leopard frog, *Rana pipiens*
Material: Two microscope slides
Diagnosis: Epidermal papilloma
Submitter: B. J. Cohen

RTLA 657. Leopard frog, *Rana pipiens*
Material: Four microscope slides
Diagnosis: Squamous cell carcinoma
Submitter: B. J. Cohen

RTLA 658. Leopard frog, *Rana pipiens*
Material: Four microscope slides
Diagnosis: Squamous cell carcinoma; epidermal hyperplasia
Submitter: B. J. Cohen

RTLA 659. Leopard frog, *Rana pipiens*
Material: Two microscope slides
Diagnosis: Dermal gland adenocarcinoma
Submitter: B. J. Cohen

RTLA 660. Leopard frog, *Rana pipiens*
Material: Eight microscope slides
Diagnosis: Invasive squamous cell carcinoma
Submitter: B. J. Cohen

RTLA 661A. & B. Spotted-newt, *Notophthalmus viridescens*
Material: Six pathologic gross specimens; two normal gross specimens
Diagnosis: Adiaspiromycosis
Submitter: N. Cohen
RTLA 662. Spotted newt, Notophthalmus viridescens
Material: A hard lump biopsied from the tail
Diagnosis: Group of hypertrophic sub-epidermal glands associated with parasitic worms
Submitter: N. Cohen

RTLA 663. Death adder, Acanthopsis antarcticus
Material: Fifteen microscope slides
Diagnosis: Reticulum cell sarcoma
Submitter: L. A. Griner

RTLA 664. Hognose snake, Heterodon platyrhinos
Material: Fifteen microscope slides
Diagnosis: Reticulum cell sarcoma
Submitter: R. L. Snyder

RTLA 665. Galaxias vulgaris
Material: Partially dissected specimen with multiple growths in body wall; two microscope slides
Diagnosis: Multiple infectious granulomas
Submitter: F. M. Hine

RTLA 666. Great sculpin, Myoxocephalus polyacanthocephalus
Material: Four vials containing normal and pathologic samples of skin from the dorsal region of the head and the dorsolateral region below the second dorsal fin of the same specimen
Diagnosis: Normal organ
Submitter: J. S. Laurie

RTLA 667. Flathead sole, Hippoglossoides elassodon
Material: Tail of a sole with a rod-shaped growth
Diagnosis: Epidermal papilloma
Submitter: J. S. Laurie

RTLA 668. Tidepool sculpin, Oligocottus maculosus
Material: Two gross specimens with multiple grape-like clusters of growths on the dorsal region of the head
Diagnosis: Intradermal cystic lesions consistent with gas bubble disease
Submitter: J. S. Laurie

RTLA 669. Lake whitefish, Coregonus clupeaformis
Material: A piece of tissue from the posterior dorsal body cavity with a finger-like protrusion
Diagnosis: Septate fungus with encysted spores
Submitter: C. R. Wilson

RTLA 670. Burbot, Lota lota
Material: A piece of body wall
Diagnosis: Inflammatory lesion in response to unidentified parasite material
Submitter: G. R. Bell
RTLA 671. Coho salmon, *Oncorhynchus kisutch*
Material: Part of the body wall containing a cyst-like growth
Diagnosis: Sarcoma
Submitter: G. R. Bell

RTLA 672. Luderick, *Girella tricuspidata*
Material: Two slides
Diagnosis: Toxic necrosis of kidney tubules
Submitter: P. H. Wolf

RTLA 673. Rainbow trout, *Salmo gairdneri*
Material: One piece of tissue; two slides; six photographs
Diagnosis: Nephroblastoma
Submitter: P. H. Odense

RTLA 674. Green crab, *Carcinus maenus*
Material: One gross specimen
Diagnosis: Developmental anomaly containing loose connective tissue
Submitter: G. W. Bane and S. Shumway

RTLA 675. Cunner, *Tautogolabrus adspersus*
Material: One gross specimen
Diagnosis: Ameloblastic odontoma
Submitter: G. W. Bane and S. Shumway

RTLA 676. Goldfish, *Carassius auratus*
Material: One piece of viscera; 4 slides
Diagnosis: Granuloma
Submitter: P. M. Hine

RTLA 677. Atlantic menhaden, *Brevoortia tyrannus*
Material: One piece of tissue
Diagnosis: Ganglioneuroblastoma
Submitter: J. A. Quick, Jr. and W. Kandrashoff

RTLA 678. Striped mojarra, *Diapterus plumieri*
Material: One piece of tissue; two photographs
Diagnosis: Fibroma
Submitter: J. A. Quick, Jr. and W. Kandrashoff

RTLA 679. Largemouth bass, *Micropterus salmoides*
Material: One piece of tissue
Diagnosis: Lipoma
Submitter: J. L. Gaines, Jr.

RTLA 680. Bluegill, *Lepomis macrochirus*
Material: One piece of tissue
Diagnosis: Fibroma
Submitter: J. L. Gaines, Jr.
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RTLA 681. Largemouth bass, *Micropterus salmoides*
Material: One piece of tissue
Diagnosis: Fibroma
Submitter: J. L. Gaines, Jr.

RTLA 682. Black bullhead, *Ictalurus melas*
Material: One gross specimen
Diagnosis: Cutaneous papilloma with extra chromatophores
Submitter: J. L. Gaines, Jr.

RTLA 683. Black bullhead, *Ictalurus melas*
Material: One gross specimen
Diagnosis: Cutaneous papilloma with extra chromatophores
Submitter: J. L. Gaines, Jr.

RTLA 684. Bluegill, *Lepomis macrochirus*
Material: One gross specimen with multiple chalky skin lesions
Diagnosis: Pending
Submitter: J. L. Gaines, Jr.

RTLA 685. Largemouth bass, *Micropterus salmoides*
Material: Anterior part of one gross specimen
Diagnosis: Multiple cutaneous fibromas and fibrosarcomas
Submitter: J. L. Gaines, Jr.

RTLA 686. Striped bass, *Morone saxatilis*
Material: Mandible with a growth
Diagnosis: Exostosis; possibly as a result of an old fracture
Submitter: J. L. Gaines, Jr.

RTLA 687. Brown trout, *Salmo trutta*
Material: One piece of tissue
Diagnosis: Chronic inflammation and scar formation
Submitter: J. G. Hnath

RTLA 688. Key brotula, *Ogilbia cayorum*
Material: One gross specimen
Diagnosis: Protozoan cysts
Submitter: N. Rothman Feinberg

RTLA 689. Northern pike, *Esox lucius*
Material: One head
Diagnosis: Fibroma
Submitter: E. R. Brown

RTLA 690. Walleye, *Stizostedion vitreum vitreum*
Material: One head
Diagnosis: Probable rhabdomyoma
Submitter: E. R. Brown

RTLA 691. Bluegill, *Lepomis macrochirus*
Material: Twelve gross specimens
Diagnosis: Tissue unsuitable for diagnosis
Submitter: E. R. Brown
Material: Nine gross specimens
Diagnosis: Tissue unsuitable for diagnosis
Submitter: E. R. Brown

RTLA 693. Hornyhead chub, *Nocomis biguttatus*
Material: One gross specimen
Diagnosis: Hyperpigmentation in epidermis
Submitter: E. R. Brown

RTLA 694. Northern pike, *Esox lucius*
Material: One gross specimen
Diagnosis: Probable neoplasm; tissue unsuitable for making a definitive diagnosis
Submitter: E. R. Brown

RTLA 695. Yellow bullhead, *Ictalurus natalis*
Material: One gross specimen; two pieces of a lesion removed from the specimen
Diagnosis: Pigmented epidermal papilloma
Submitter: J. C. Harshbarger and J. A. Couch

RTLA 696. Yellow bullhead, *Ictalurus natalis*
Material: One gross specimen; two pieces of a lesion removed from the specimen
Diagnosis: Pigmented epidermal papilloma
Submitter: J. C. Harshbarger and J. A. Couch

RTLA 697. Chinook salmon, *Oncorhynchus tshawytscha*
Material: One pathologic piece of spleen; one normal piece of spleen
Diagnosis: Hemangioendothelioma
Submitter: G. R. Bell

RTLA 698. Walleye, *Stizostedion vitreum vitreum*
Material: Wet tissue
Diagnosis: Lymphocystis
Submitter: E. R. Brown

RTLA 699. Walleye, *Stizostedion vitreum vitreum*
Material: Wet tissue
Diagnosis: Lymphocystis
Submitter: E. R. Brown

RTLA 700. Steelhead rainbow trout, *Salmo gairdneri*
Material: A portion of fish extending from the anterior end of the second dorsal fin to the anal opening
Diagnosis: Cystic well-differentiated nephroblastoma
Submitter: J. G. Hnath

RTLA 701. Chinook salmon, *Oncorhynchus tshawytscha*
Material: A growth located ventral to the kidney
Diagnosis: Cystic well-differentiated nephroblastoma
Submitter: J. G. Hnath
RTLA 702. Tiger salamander, *Ambystoma tigrinum*
Material: One microscope slide; one photograph
Diagnosis: Epidermoid cyst containing sloughed cells
Submitter: F. L. Rose

RTLA 703. Tiger salamander, *Ambystoma tigrinum*
Material: One microscope slides; one photograph
Diagnosis: Epidermoid cyst containing sloughed cells
Submitter: F. L. Rose

RTLA 704. Tiger salamander, *Ambystoma tigrinum*
Material: One microscope slide; one photograph
Diagnosis: Papilloma -- noninvasive
Submitter: F. L. Rose

RTLA 705. Tiger salamander, *Ambystoma tigrinum*
Material: One microscope slide; one photograph
Diagnosis: Probable fibroma
Submitter: F. L. Rose

RTLA 706. Tiger salamander, *Ambystoma tigrinum*
Material: Two microscope slides; one photograph
Diagnosis: Fibroma versus myxofibroma
Submitter: F. L. Rose

RTLA 707. Tiger salamander, *Ambystoma tigrinum*
Material: One microscope slide; one photograph
Diagnosis: Dermal melanoma
Submitter: F. L. Rose

RTLA 708. Tiger salamander, *Ambystoma tigrinum*
Material: Two microscope slides; four photographs
Diagnosis: Probable resolving hemorrhage with breakdown and phagocytosis of red blood cells, however, endothelioma cannot be ruled out
Submitter: F. L. Rose

RTLA 709. Walleye, *Stizostedion vitreum vitreum*
Material: Three sections of body wall bearing a growth
Diagnosis: Dermal fibroma with mottled foci of calcification
Submitter: J. G. Hnath

RTLA 710. Summer flounder, *Paralichthys dentatus*
Material: A section from a growth which was located near the tip of the lower jaw medially
Diagnosis: Probable lipoma; tissue inadequate for definitive diagnosis
Submitter: R. R. Stickney

RTLA 711. Rainbow trout, *Salmo gairdneri*
Material: Seven microscope slides
Diagnosis: Thymic hyperplasia including hyperplastic epidermal elements
Submitter: R. J. Roberts
RTLA 712. Guppy, *Poecilia reticulata*
Material: Two partially dissected fish; one microscope slide
Diagnosis: Massive infestation of surface viscera by *Ophryoglena* (ciliated protozoan)
Submitter: G. E. Cosgrove

RTLA 713. Oyster, *Crassostrea virginica*
Material: One gross specimen without shell; 6 black and white photographs; 3 microscope slides
Diagnosis: Focal hyperplasia of vesicular connective tissue in the mantle
Submitter: C. J. Dawe

RTLA 714. Oyster, *Crassostrea virginica*
Material: One gross specimen without shell; 5 black and white photographs; 6 microscope slides
Diagnosis: Aberrant nodule of vesicular connective tissue; possibly a developmental anomaly
Submitter: C. J. Dawe

RTLA 715. Peruvian brook trout, (probably *Salvelinus fontinalis*)
Material: Stomach and contiguous small bowel -- portions of liver and spleen are attached to the gastric cardia and the small bowel respectively by mesenteries; 13 microscope slides; 4 color transparencies; 6 black and white photographs
Diagnosis: Adenocarcinoma of the stomach; intussusception of stomach and carcinoma into the small bowel
Submitter: M. Landolt and E. Mateo

RTLA 716. Box tortoise, *Terrapene carolinensis*
Material: Two microscope slides
Diagnosis: Kidney adenocarcinoma or adenosarcoma with metastases to the liver
Submitter: R. Ippen

RTLA 717. Greek land tortoise, *Testudo hermannii*
Material: Four microscope slides
Diagnosis: Lymphoblastic lymphosarcoma
Submitter: R. Ippen
Reprint: [see RTLA 716]

RTLA 718. Ornamental tortoise, *Chrysemys picta*
Material: One microscope slide
Diagnosis: Parathyroid adenoma
Submitter: R. Ippen
Reprint: [see RTLA 716]
RTLA 719. Malayan monitor, *Varanus salvator*

Material: Three microscope slides

Diagnosis: Lymphocytic or plasmacytic lymphoma

Submitter: R. Ippen

Reprint: [see RTLA 716]

RTLA 720. Teju, *Tupinambis rufescens*

Material: One microscope slide

Diagnosis: Heptaoma

Submitter: R. Ippen

Reprint: [see RTLA 716]

RTLA 721. Water moccasin, *Agkistrodon piscivorus*

Material: One microscope slide

Diagnosis: Fibroma molle

Submitter: R. Ippen

Reprint: [see RTLA 716]

RTLA 722. Indian striate adder, *Natrix stolata*

Material: One microscope slide

Diagnosis: Hemangioendothelioma

Submitter: R. Ippen

Reprint: [see RTLA 716]

RTLA 723. Atlantic salmon, *Salmo salar*

Material: One gross specimen

Diagnosis: Marked epithelial hyperplasia characterized by cellular atypia suggestive of carcinoma *in situ*

Submitter: M. Landolt and R. Dexter

RTLA 724. Planarian, *Dugesia dorotocephala*

Material: Five gross specimens

Diagnosis: Anomalous regeneration; etiology unknown

Submitter: E. J. Bienen

RTLA 725. Brown shrimp, *Penaeus aztecus*

Material: Twenty microscope slides

Diagnosis: Cutaneous papilloma surrounding loose connective tissue and coagulated protein (hemolymph?)

Submitter: D. V. Lightner


RTLA 726. Cutthroat trout (Lahonton strain), *Salmo clarki*

Material: Three microscope slides

Diagnosis: Advanced hepatoma

Submitter: C. E. Smith

RTLA 727. *Anolis* sp.

Material: One gross specimen with lesions on tail and left hindleg

Diagnosis: Bacterial granuloma

Submitter: H. A. Fehlmann
RTLA 728A. & B. Japanese beetle, *Popillia japonica*
Material: Two gross specimens
Diagnosis: Septate fungus
Submitter: D. A. Chittick

RTLA 729. Rhinoceros viper, *Bitis nasicornis*
Material: The head and two additional pieces of tissue
Diagnosis: Conjunctival inclusion cysts versus congenital infection
Submitter: J. E. Cooper

RTLA 730. Walleye, *Stizostedion vitreum vitreum*
Material: One gross specimen
Diagnosis: Pending
Submitter: E. R. Brown

RTLA 731. Walleye, *Stizostedion vitreum vitreum*
Material: One gross specimen
Diagnosis: Lymphocystis
Submitter: E. R. Brown

RTLA 732. Walleye, *Stizostedion vitreum vitreum*
Material: One gross specimen
Diagnosis: Lymphocystis probably associated with dermal sarcoma
Submitter: E. R. Brown

RTLA 733. Northern pike, *Esox lucius*
Material: One gross specimen
Diagnosis: Pending
Submitter: E. R. Brown

RTLA 734. Walleye, *Stizostedion vitreum vitreum*
Material: One gross specimen
Diagnosis: Lymphocystis
Submitter: E. R. Brown

RTLA 735. Walleye, *Stizostedion vitreum vitreum*
Material: One gross specimen
Diagnosis: Lymphocystis
Submitter: E. R. Brown

RTLA 736. Walleye, *Stizostedion vitreum vitreum*
Material: One gross specimen
Diagnosis: Lymphocystis
Submitter: E. R. Brown

RTLA 737. Bass
Material: One gross specimen
Diagnosis: Scoliosis
Submitter: E. R. Brown

RTLA 738. Northern pike, *Esox lucius*
Material: One gross specimen
Diagnosis: Probable neoplasm; preservation insufficient for conclusive determination
Submitter: E. R. Brown
RTLA 739. Walleye, *Stizostedion vitreum vitreum*
Material: One gross specimen
Diagnosis: Lymphocystis
Submitter: E. R. Brown

RTLA 740. Walleye, *Stizostedion vitreum vitreum*
Material: One gross specimen
Diagnosis: Lymphocystis
Submitter: E. R. Brown

RTLA 741. Walleye, *Stizostedion vitreum vitreum*
Material: One gross specimen
Diagnosis: Dermal sarcoma
Submitter: E. R. Brown

RTLA 742. Walleye, *Stizostedion vitreum vitreum*
Material: One gross specimen
Diagnosis: Lymphocystis associated with dermal sarcoma
Submitter: E. R. Brown

RTLA 743. Northern pike, *Esox lucius*
Material: One gross specimen
Diagnosis: Hematopoietic neoplasm
Submitter: E. R. Brown

RTLA 744. Walleye, *Stizostedion vitreum vitreum*
Material: One gross specimen
Diagnosis: Lymphocystis
Submitter: E. R. Brown

RTLA 745. Walleye, *Stizostedion vitreum vitreum*
Material: One gross specimen
Diagnosis: Probable dermal sarcoma
Submitter: E. R. Brown

RTLA 746. Bass
Material: One gross specimen
Diagnosis: Multiple bacterial granulomas
Submitter: E. R. Brown

RTLA 747. Walleye, *Stizostedion vitreum vitreum*
Material: One gross specimen
Diagnosis: Lymphocystis
Submitter: E. R. Brown

RTLA 748. Northern pike, *Esox lucius*
Material: One piece of body wall
Diagnosis: Nephroblastoma
Submitter: E. R. Brown

RTLA 749. Walleye, *Stizostedion vitreum vitreum*
Material: One gross specimen
Diagnosis: Dermal sarcoma
Submitter: E. R. Brown
RTLA 750. Bullhead, Ictalurus sp.
Material: One gross specimen
Diagnosis: Papilloma
Submitter: G. G. Combs

RTLA 751. Bullhead, Ictalurus sp.
Material: One gross specimen
Diagnosis: Papilloma
Submitter: G. G. Combs

RTLA 752. Bullhead, Ictalurus sp.
Material: One gross specimen
Diagnosis: Papilloma
Submitter: G. G. Combs

RTLA 753. Bullhead, Ictalurus sp.
Material: One gross specimen
Diagnosis: Papilloma
Submitter: G. G. Combs

RTLA 754. Bullhead, Ictalurus sp.
Material: One gross specimen
Diagnosis: Papilloma
Submitter: G. G. Combs

RTLA 755. Bullhead, Ictalurus sp.
Material: One gross specimen
Diagnosis: Papilloma
Submitter: G. G. Combs

RTLA 756. American toad, Bufo americanus
Material: Four toads with lesions randomly scattered on the ventral surface of each animal
Diagnosis: Probably due to parasites
Submitter: G. Gentry

RTLA 757. Australian rock oyster, Crassostrea commercialis
Material: One microscope slide
Diagnosis: Haplosporidan and helminth parasites
Submitter: P. H. Wolf

RTLA 758. Australian rock oyster, Crassostrea commercialis
Material: One microscope slide
Diagnosis: Tylocephalum (?) sp.
Submitter: P. H. Wolf

RTLA 759A. & B. African walking catfish
Material: Two microscope slides; 2 black and white photographs
Diagnosis: Hemangiomia (RTLA 759A); Dermal fibroma (RTLA 759B)
Submitter: I. Paperna

RTLA 760. Electric catfish, Malapterurus electricus
Material: Two microscope slides; 2 paraffin blocks; one black and white photograph
Diagnosis: Epithelioma -- on lips, head and flanks
Submitter: I. Paperna
RTLA 761. Cichlid, *Haplochromis ismaeli*  
Material: One microscope slide; 2 black and white photographs  
Diagnosis: Lipoma - subcutaneous  
Submitter: I. Paperna

RTLA 762. Mummichog, *Fundulus heteroclitus*  
Material: Two microscope slides; 2 black and white photographs  
Diagnosis: Fibro-epithelioma of the skin  
Submitter: I. Paperna

RTLA 763. Ulua, *Carangoides ajax* (white ulua) or *C. equula* (ulua)  
Material: Body serosa with worms  
Diagnosis: Pleurocercoid larvae of a tapeworm  
Submitter: A. C. Smith

RTLA 764. Black tip shark, *Carcharhinus melanopterus*  
Material: Normal and mottled liver  
Diagnosis: Fatty Liver  
Submitter: A. C. Smith and R. L. Taylor

RTLA 765. Rainbow trout, *Salmo gairdneri*  
Material: One gross specimen; 3 microscope slides  
Diagnosis: Nephroblastoma  
Submitter: D. Woronecki

RTLA 766. Brown bullhead, *Ictalurus nebulosus*  
Material: One gross specimen  
Diagnosis: Epidermal papilloma  
Submitter: J. L. Gaines, Jr.

RTLA 767. Australian rock oyster, *Crassostrea commercialis*  
Material: One microscope slide  
Diagnosis: Hematopoietic neoplasm  
Submitter: P. H. Wolf

RTLA 768. Australian rock oyster, *Crassostrea commercialis*  
Material: Four microscope slides; 2 black and white photographs  
Diagnosis: Infected with ciliate protozoans  
Submitter: P. H. Wolf

RTLA 769. Jewfish, *Sciena autarctica*  
Material: Four pieces of wet tissue  
Diagnosis: Pending  
Submitter: P. H. Wolf

RTLA 770. White hake, *Urophycis tenuis*  
Material: Dorsal fin with adjacent growth  
Diagnosis: Fibrosarcoma  
Submitter: M. W. Newman

RTLA 771. Pacific oyster, *Crassostrea gigas*  
Material: One gross specimen  
Diagnosis: Pedunculated vesiculo-epithelial polyp of the mantle  
Submitter: J. G. Denison
RTLA 772. Rainbow trout, \textit{Salmo gairdneri}  
Material: A piece of a kidney tumor; 4 microscope slides  
Diagnosis: Nephroblastoma  
Submitter: C. E. Smith  

RTLA 773. Spring or chinook salmon, \textit{Oncorhynchus tschawytscha}  
Material: Three microscope slides  
Diagnosis: Lymphoma  
Submitter: G. R. Bell  

RTLA 774. Spot-tail shiner, \textit{Notropis hudsonius}  
Material: A growth found lying freely in the body cavity  
Diagnosis: Vascularized tissue adjacent to or part of ovary containing sporozoan parasites  
Submitter: D. J. Klemm  

RTLA 775. Sinai desert cobra, \textit{Walterinnesia aegyptia}  
Material: Two pieces of kidney tissue  
Diagnosis: Non-caseating granuloma similar to sarcoidosis, but not showing Schaumann bodies  
Submitter: E. Elkan  

RTLA 776. Croaker  
Material: A grossly enlarged vertebral spine  
Diagnosis: Exostosis  
Submitter: K. Holland  

RTLA 777. Yellow perch, \textit{Perca flavescens}  
Material: A wedge of tissue removed from a large mass which was found free in the body cavity  
Diagnosis: Fibroma  
Submitter: A. Cook  

RTLA 778. Indigo snake, \textit{Drymarchon corais couperi}  
Material: Four microscope slides  
Diagnosis: Narcotizing enteritis  
Submitter: E. A. Holzinger  

RTLA 779. Largemouth bass, \textit{Micropterus salmoides}  
Material: One gross specimen  
Diagnosis: Well-differentiated lipoma  
Submitter: J. L. Gaines, Jr.  

RTLA 780. Largemouth bass, \textit{Micropterus salmoides}  
Material: Spleen  
Diagnosis: Mesenteric lipoma adjacent to spleen  
Submitter: J. L. Gaines, Jr.  

RTLA 781. Rainbow trout, \textit{Salmo gairdneri}  
Material: One microscope slide  
Diagnosis: Granuloma  
Submitter: B. L. Munday  

RTLA 782. Spot, \textit{Leiostomus xanthurus}  
Material: A piece of tissue with part of a growth  
Diagnosis: Microsporidia infection; \textit{Pleistophora} sp.  
Submitter: R. M. Overstreet
<table>
<thead>
<tr>
<th>Case Number</th>
<th>Specimen</th>
<th>Material Description</th>
<th>Diagnosis</th>
<th>Submitter</th>
</tr>
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<tr>
<td>RTLA 783</td>
<td>Rainbow trout, <em>Salmo gairdneri</em></td>
<td>Three microscope slides</td>
<td>Mycobacterial granuloma</td>
<td>B. L. Munday</td>
</tr>
<tr>
<td>RTLA 784</td>
<td>Morelet's crocodile, <em>Crocodylus moreletii</em></td>
<td>One crocodile</td>
<td>Anasarca associated with malnutrition</td>
<td>R. H. Hunt</td>
</tr>
<tr>
<td>RTLA 785</td>
<td>Morelet's crocodile, <em>Crocodylus moreletii</em></td>
<td>One crocodile</td>
<td>Anasarca associated with malnutrition</td>
<td>R. H. Hunt</td>
</tr>
<tr>
<td>RTLA 786</td>
<td>Spectacled caiman, <em>Caiman crocodilus</em></td>
<td>One crocodile</td>
<td>Normal (control)</td>
<td>R. H. Hunt</td>
</tr>
<tr>
<td>RTLA 787</td>
<td>Black tetra, <em>Gymnocorymbus ternetzi</em></td>
<td>One fish</td>
<td>Pending</td>
<td>M. E. Rice and T. C. Smith</td>
</tr>
<tr>
<td>RTLA 788</td>
<td>Atlantic cod, <em>Gadus morhua</em></td>
<td>Ventro-posterior edge of the opercular area with a sub-epidermal, firm, growth</td>
<td>Fibroma</td>
<td>J. S. Laurie</td>
</tr>
<tr>
<td>RTLA 789</td>
<td>Spring-tail lizard, <em>Uromastix acanthinurus</em></td>
<td>Material excised from a large swelling on the left hind foot</td>
<td>Bacterial granuloma</td>
<td>R. Crombie</td>
</tr>
<tr>
<td>RTLA 790</td>
<td>Cunner, <em>Tautogolabrus adspersus</em></td>
<td>One gross specimen</td>
<td>Pending</td>
<td>S. Shumway</td>
</tr>
<tr>
<td>RTLA 791</td>
<td>Tiger salamander, <em>Ambystoma tigrinum</em></td>
<td>One microscope slide; one color transparency</td>
<td>Dermal melanocytoma</td>
<td>F. L. Rose</td>
</tr>
<tr>
<td>RTLA 792</td>
<td>Tiger salamander, <em>Ambystoma tigrinum</em></td>
<td>One microscope slide; one color transparency</td>
<td>Dermal myxofibroma</td>
<td>F. L. Rose</td>
</tr>
<tr>
<td>RTLA 793</td>
<td>Bluegill, <em>Lepomis microchirus</em></td>
<td>One gross specimen</td>
<td>Cutaneous melanoma</td>
<td>J. M. Barkuloo</td>
</tr>
</tbody>
</table>
RTLA 794. Sydney rock oyster, *Crassostrea commercialis*
Material: One microscope slide; 2 color transparencies
Diagnosis: Unabsorbed spermatic tubules (associated with sex reversal)
Submitter: P. H. Wolf

RTLA 795. Brown trout, *Salmo trutta*
Material: One microscope slide
Diagnosis: Leiomyoma
Submitter: C. E. Smith

RTLA 796. Largemouth bass, *Micropterus salmoides*
Material: One microscope slide
Diagnosis: Cystic mesothelioma
Submitter: C. E. Smith

RTLA 797. Golden trout, *Salmo aguabonita*
Material: One microscope slide
Diagnosis: Fibroepithelioma of the skin
Submitter: C. E. Smith

RTLA 798. Boa constrictor, *Boa constrictor*
Material: One gross specimen
Diagnosis: Fecal impaction
Submitter: I. Gorman

RTLA 799. Walleye, *Stizostedion vitreum vitreum*
Material: One gross specimen; 2 electron photomicrographs
Diagnosis: Dermal sarcoma
Submitter: W. E. Ribelin

RTLA 800. Sauger, *Stizostedion canadense*
Material: One gross specimen
Diagnosis: Lipid granulomas within hyperplastic abdominal depot fat
Submitter: J. G. Hnath and D. Tomljanovich

RTLA 801. Sauger, *Stizostedion canadense*
Material: One gross specimen
Diagnosis: Lipid granulomas within hyperplastic abdominal depot fat
Submitter: J. G. Hnath and D. Tomljanovich

RTLA 802. Red-spotted newt, *Notophthalmus viridescens*
Material: One gross specimen
Diagnosis: Gram negative bacterial infection
Submitter: G. Gentry

RTLA 803. Brown trout, *Salmo trutta*
Material: Liver and associated growth
Diagnosis: Nephroblastoma
Submitter: P. M. Hine

RTLA 804. Nile monitor, *Varanus niloticus*
Material: One paraffin block
Diagnosis: Heterotopic bone formation ("Myositis ossificans")
Submitter: E. Elkan
RTLA 805. *Sphaerodactylus a. argus*
Material: One gross specimen
Diagnosis: Parasitic cyst
Submitter: R. Crombie

RTLA 806. *Anolis garmani*
Material: One gross specimen
Diagnosis: Bullet embedded under skin
Submitter: R. Crombie

RTLA 807. Striped mullet, *Mugil cephalus*
Material: Five microscope slides; 4 black and white photographs
Diagnosis: Fibroma with areas of ossification
Submitter: D. V. Lightner

RTLA 808. Muskellunge, *Esox masquinongy*
Material: Fifteen slides
Diagnosis: Lymphosarcoma
Submitter: R. Sonstegard

RTLA 809. Leopard frog, *Rana pipiens*
Material: Research material including 163 microscope slides, 111 paraffin blocks, 50 slidedrips, 21 Kodachrome transparencies, reprints of 8 papers and two log books demonstrating renal adenocarcinoma
Submitter: G. S. King


RTLA 810. Bullsnake, *Pituophis catenifer*
Material: Four microscope slides
Diagnosis: Pigmented spindle-cell sarcoma; possibly of peripheral nerve origin
Submitter: G. Migaki

RTLA 811. Goeduck, *Panope generosa*
Material: One paraffin block containing a cyst on a siphon
Diagnosis: Abscess
Submitter: G. B. Pauley

RTLA 812. Chinook salmon, *Oncorhynchus tshawytscha*
Material: Two paraffin blocks containing gills with small white cysts
Diagnosis: Parasitized by *Dermocystidium*
Submitter: G. B. Pauley
RTLA 813. Rainbow trout, *Salmo gairdneri*
Material: Two paraffin blocks
Diagnosis: Hepatoma
Submitter: G. B. Pauley

RTLA 814. Shipworm, *Teredo* sp. (fossil specimen)
Material: A polished section of conifer wood containing the borings and pellets of *Teredo* and a petrified *Teredo* body
Diagnosis: No neoplastic involvement; the specimen will serve to demonstrate the possibility of finding a neoplasm in an invertebrate fossil
Submitter: J. A. Tuta

RTLA 815. Pacific oyster, *Crassostrea gigas*
Material: Four paraffin blocks
Diagnosis: Parasitized by *Protista incertae sedis*
Submitter: G. B. Pauley

RTLA 816. Freshwater mussel, *Gonidea angulata*
Material: One paraffin block
Diagnosis: Parasitized by the trematode, *Aspidogaster conchicola*
Submitter: G. B. Pauley

RTLA 817. Painted turtle, *Chrysemys picta*
Material: Two paraffin blocks
Diagnosis: Two ulcers in the stomach and one in the duodenum
Submitter: G. B. Pauley

RTLA 818. Butter clam, *Saxidomus giganteus*
Material: Four paraffin blocks
Diagnosis: Abscesses
Submitter: G. B. Pauley

RTLA 819. Coho salmon, *Oncorhynchus kisutch*
Material: A wedge of tissue removed from a growth located on the dorsal side of the fish just caudal to the head; one color photograph
Diagnosis: Fibroma
Submitter: G. Hoskins
RTLA 820. Marbled salamander, *Ambystoma opacum*
Material: Encapsulated tumor about 1/2 cm sphere removed from the neck near the area of jaw proximal; 4 slides; 1 paraffin block; 6 photographs
Diagnosis: Non-invasive Leydig cell neoplasm
Submitter: C. T. Wilson

RTLA 821A. & B. Striped mullet, *Mugil cephalus*
Material: Four slides; 3 photographs
Diagnosis: Ossifying fibroma
Submitter: D. V. Lightner

RTLA 822. Rainbow trout, *Salmo gairdneri*
Material: One-half of a growth; 4 photographs; 4 negatives
Diagnosis: Pending
Submitter: P. M. Hine

RTLA 823. Sauger, *Stizostedion canadense*
Material: One gross specimen with a growth posterior to the left eye and a small, slightly raised lesion on the right lateral side; one color transparency
Diagnosis: Ossifying fibroma
Submitter: D. Tomljanovich

RTLA 824. English sole, *Parophrys vetulus*
Material: One gross specimen with a large growth posterior to the head between the lateral line and dorsal fin on the eyed-side
Diagnosis: Papilloma
Submitter: N. P. Boyce

RTLA 825. Brown bullhead, *Ictalurus nebulosus*
Material: One gross specimen
Diagnosis: Epidermal carcinoma
Submitter: J. C. Harshbarger and G. G. Combs

RTLA 826. Brown bullhead, *Ictalurus nebulosus*
Material: One gross specimen
Diagnosis: Epidermal hyperplasia overlying dermal fat deposit
Submitter: J. C. Harshbarger and G. G. Combs

RTLA 827. Brown bullhead, *Ictalurus nebulosus*
Material: One gross specimen
Diagnosis: Papilloma
Submitter: J. C. Harshbarger and G. G. Combs

RTLA 828. Brown bullhead, *Ictalurus nebulosus*
Material: One gross specimen
Diagnosis: Inflammatory lesion with hyperpigmentation
Submitter: J. C. Harshbarger

RTLA 829. Florida gar, *Lepisosteus platyrhincus*
Material: One gross specimen
Diagnosis: Pending
Submitter: J. C. Harshbarger and G. G. Combs
RTLA 830. Yellow bullhead, *Ictalurus natalis*
Material: One gross specimen
Diagnosis: Papilloma
Submitter: J. C. Harshbarger and G. G. Combs

RTLA 831. Brown bullhead, *Ictalurus nebulosus*
Material: One gross specimen
Diagnosis: Inflammatory lesion
Submitter: J. C. Harshbarger and G. G. Combs

RTLA 832. Brown bullhead, *Ictalurus nebulosus*
Material: One gross specimen
Diagnosis: Papillary hyperplasia versus papilloma
Submitter: J. C. Harshbarger and G. G. Combs

RTLA 833. Brown bullhead, *Ictalurus nebulosus*
Material: One gross specimen
Diagnosis: Papillary hyperplasia versus papilloma
Submitter: J. C. Harshbarger and G. G. Combs

RTLA 834. Brown bullhead, *Ictalurus nebulosus*
Material: One fish head
Diagnosis: Papilloma
Submitter: J. C. Harshbarger and G. G. Combs

RTLA 835. Brown bullhead, *Ictalurus nebulosus*
Material: One fish head
Diagnosis: Papilloma
Submitter: J. C. Harshbarger and G. G. Combs

RTLA 836. Brown bullhead, *Ictalurus nebulosus*
Material: One fish head
Diagnosis: Subdermal or intradermal fat deposit
Submitter: J. C. Harshbarger and G. G. Combs

RTLA 837. Brown bullhead, *Ictalurus nebulosus*
Material: One gross specimen
Diagnosis: Pigmented papillary hyperplasia
Submitter: J. C. Harshbarger and G. G. Combs

RTLA 838. Brown bullhead, *Ictalurus nebulosus*
Material: One gross specimen
Diagnosis: Papilloma
Submitter: J. C. Harshbarger and G. G. Combs

RTLA 839. Yellow bullhead, *Ictalurus natalis*
Material: One gross specimen
Diagnosis: Nevus
Submitter: J. C. Harshbarger and G. G. Combs

RTLA 840. Brown bullhead, *Ictalurus nebulosus*
Material: One fish head
Diagnosis: Pigmented papillary hyperplasia
Submitter: J. C. Harshbarger and G. G. Combs
RTLA 841. Brown bullhead, *Ictalurus nebulosus*
Material: One fish head
Diagnosis: Enlarged taste papillae
Submitter: J. C. Harshbarger and G. G. Combs

RTLA 842. Turbot, *Rhombus maximus*
Material: One slide; 3 blocks
Diagnosis: Malignant lymphoma
Submitter: J. Nightingale

RTLA 843. Northern pike, *Esox lucius*
Material: Twenty slides
Diagnosis: Exuberant overgrowth of fibrous tissue in response to a probable injury
Submitter: W. Lampert

RTLA 844-887. Oyster, *Crassostrea virginica*
Material: Forty-three slides
Diagnosis: Hematopoietic neoplasms
Submitter: E. M. Frierman
Adenoma - Adenocarcinoma: Reptile - 460, 633; Amphibian - 41, 60, 172, 282, 659; Fish - 157, 311, 313, 622, 653, 715, 718; Mollusk - 269

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15200 Honor Highway
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263 Spruce Street
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ZUBROD, C. G.
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ZWART, P.
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Atlantic menhaden
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Atlantic octopus
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Australian rock oyster
Australian skink
Australian snake-necked turtle
Australorbis glabratus

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Bilharzia snail
Bimera sp.
Bitis nasicornis
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Black crappie
Black-lip pearl oyster
Black mollie
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Boa constrictor
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Sea morid
Sea squirt
Sea urchin test
Sebastes crameri
Sebastes diploproa
Seriphus politus
Sheepshead
Sheepshead minnow
Shipworm
Shortnose batfish
Sicyogaster maeandricus
Silkworm
Silver dollar
Sinai desert cobra
Sitophilus granarius
Skipjack tuna
Slatepencil urchin
Smallmouth bass
Smooth Washington clam
Snapping turtle
Sockeye salmon
Soft-shell clam
South American gartersnake
South American red-eared turtle
Spanish mackerel
Spectacled caiman
Sphaerodactylus a. argus
Spiny-headed worm
Spisula solidissima
Splitnose rockfish
Spot
Spot-tail shiner
Spotted eel
Spotted metynnis
Spring salmon
Spring-tail lizard
Spruce budworm
Spruce sawfly
Square-marked toad
Staghorn coral
Starry flounder
Steelhead rainbow trout
Stizostedion canadense
Stizostedion vitreum vitreum
Striped bass
Striped mojarra
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<td>Venus mercenaria</td>
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<td>Zebra caterpillar</td>
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TEAR OUT ACCESSION SHEET

SUBMIT WITH KNOWN INFORMATION TO:
Dr. John C. Harshbarger
Registry of Tumors in Lower Animals
National Museum of Natural History
Smithsonian Institution
Washington, D.C. 20560

DATE RECD. ________________________
CONTRIBUTOR'S NO. ________________________
RTLA NO. ________________________
USNM NO. ________________________
NIH HISTOPATH NO. ________________________

COMMON NAME ____________________ FAMILY ____________________
PHYLUM ____________________ GENUS ____________________
CLASS ____________________ SPECIES ____________________
ORDER ____________________

CATEGORY: NEOPLASM ___ INFLAMMATION ___ INFECTION ___ PARASITIC ___ TOXIC ___
DEVELOPMENTAL DEFECT ___ TRAUMATIC ___ NORMAL ___ OTHER ___

CONTRIBUTOR (NAME & ADDRESS): COLLECTOR (NAME & ADDRESS):

ITEMS SUBMITTED (QUANTITY):
GROSS MATERIAL ____________________ PHOTOGRAPHS ____________________
SLIDES ____________________ REPRINTS ____________________
BLOCKS ____________________ OTHER ____________________

ORIGIN OF ANIMAL: MARINE ___ FRESHWATER ___ ESTUARINE ___ TERRESTRIAL ___
WHERE COLLECTED ____________________

DATE COLLECTED _____ SEX _____ AGE _____ STAGE OF LIFE CYCLE ____________________
HOW KILLED ____________________ FIXATION ____________________
GROSS DESCRIPTION ____________________

MICROSCOPE DX ____________________

COMMENTS (e.g., possible exposure to chemical pollutants or infectious agents, incidence and duration of this condition in the population, etc.)

(Please use reverse side if more space is needed)