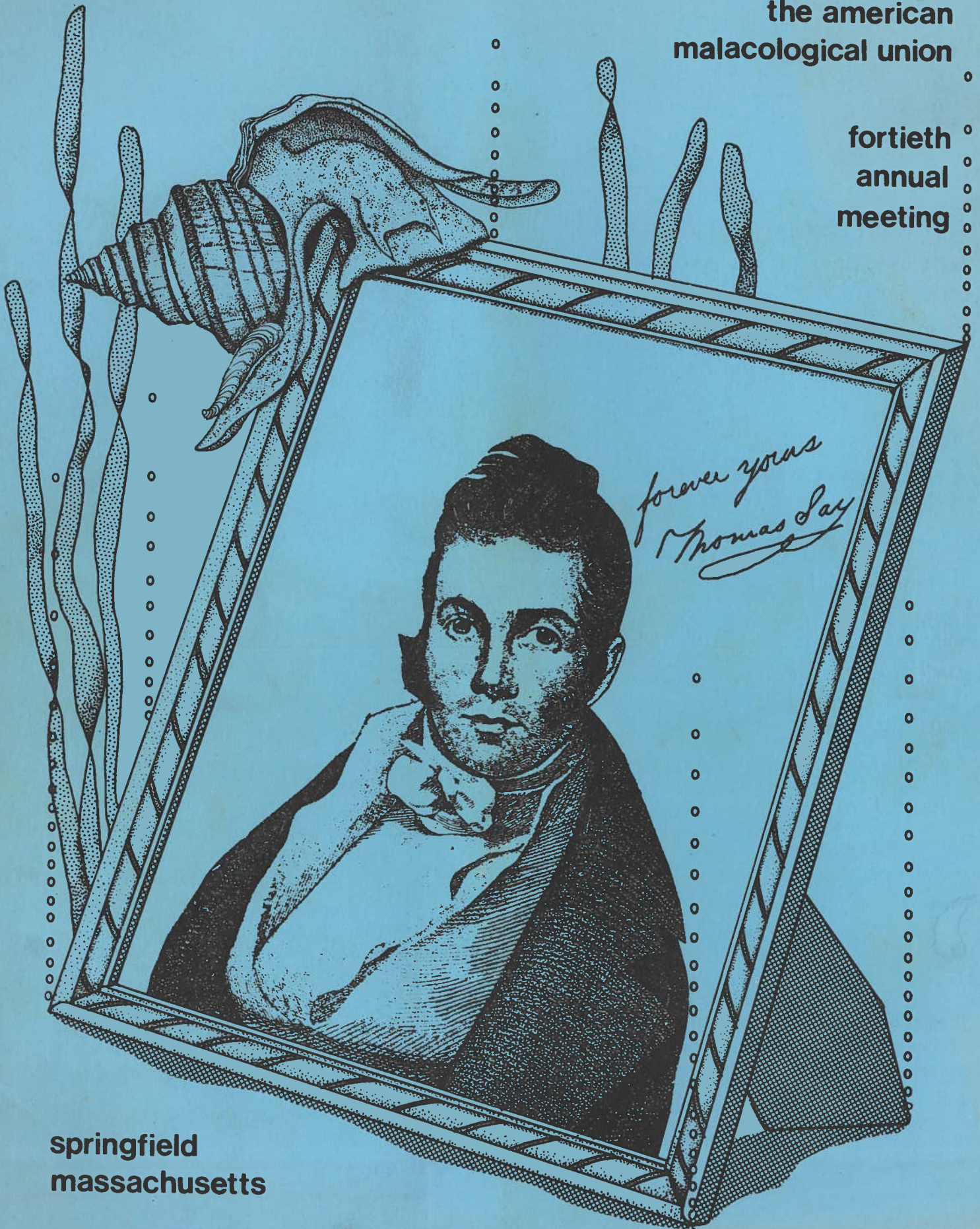


the american
malacological union

fortieth
annual
meeting



springfield
massachusetts

august 4-8, 1974

THE AMERICAN MALACOLOGICAL UNION

40TH ANNUAL MEETING

AUGUST 4-7, 1974

MUSEUM OF NATURAL SCIENCE
and
MUSEUM OF FINE ARTS
SPRINGFIELD, MASSACHUSETTS

1973-74 AMU Officers

President -----	Harold D. Murray
President-Elect -----	Donald R. Moore
Vice-President -----	Dorothea Franzen
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SUMMARY OF 1974 PROGRAM

AUGUST 3--Saturday

2:00- 5:00 Registration, Tolman Hall, Museum of Science
5:00- 8:00 Dinner
8:00-11:00 President's Reception, Tolman Hall, Museum of Science

AUGUST 4--Sunday

9:00-11:30 Registration, Tolman Hall, Museum of Science
11:30- 1:30 Lunch
1:30- 2:00 Call to Order, Museum of Fine Arts
2:00- 3:20 Papers
3:20- 3:35 Intermission
3:35- 4:35 Papers
4:40- 7:30 Dinner
7:30- Conservation Committee, Tolman Lecture Hall, all persons invited

AUGUST 5--Monday, Museum of Fine Arts

9:00-10:20 Papers
10:20-10:35 Intermission
10:35-11:25 Papers
11:30-12:00 Group picture, Quadrangle
12:00- 2:00 Lunch
2:00- 3:25 Papers
3:25- 3:40 Intermission
3:40- 4:40 Papers
4:45- 7:00 Dinner
7:00- Executive Council Meeting, Tolman Hall, Museum of Science
7:30- Movie--"Undersea Oasis," Lapidary Room, Museum of Science

AUGUST 6--Tuesday, Museum of Fine Arts

9:00-10:35 Papers
10:35-10:50 Intermission
10:50-11:55 Papers
11:55- 2:00 Lunch
2:00- 3:25 Papers
3:25- 3:40 Intermission
3:40- 4:45 Papers
4:50- 7:30 Dinner
7:30- Shell Club Night, Museum of Fine Arts; Mrs. Constance Boone,
moderator.

AUGUST 7--Wednesday, Museum of Fine Arts

9:00-10:25 Papers
10:25-10:40 Intermission
10:40-11:35 Papers
11:40- 2:00 Lunch
2:00- 3:30 Annual Business Meeting, Museum of Fine Arts
6:00- 7:00 Social Hour, Stonehaven Motor Inn
7:00- Annual Banquet, Stonehaven Motor Inn

Our Hosts: Mr. Earl Reed, Senior Curator, Museum of Science; and the Connecticut Valley Shell Club.

Name Tag Ribbons: Blue--Local Committee; Red--Executive Council Member.

1974 AMU PROGRAM

SATURDAY--August 3, 1974

- 2:00- 5:00 p.m. REGISTRATION--Tolman Hall, Museum of Science
5:00- 8:00 p.m. DINNER
8:00-11:00 p.m. PRESIDENT'S RECEPTION--Tolman Hall, Museum of Science

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SUNDAY--August 4, 1974

- 9:00-11:30 a.m. REGISTRATION--Tolman Hall, Museum of Science
11:30 a.m. LUNCH
1:30- 2:00 p.m. CALL TO ORDER--MUSEUM OF FINE ARTS

Welcome: Dr. Frank Korkosz, Director of Springfield Museum of Science, and
Mr. Earl Reed, Senior Curator, Museum of Science; President, Connecticut Valley Shell Club; and Local Chairman on arrangements.

Response: Dr. Harold D. Murray, President, American Malacological Union, Inc.; Biology Department, Trinity University, San Antonio, Texas.

Papers with a ** are presented by special invitation of the President. The authors of these papers have been released from the 15 minute restriction, allowing an opportunity to develop a subject in greater depth.

- 2:00 p.m. THOMAS SAY--AMERICA'S FIRST MALACOLOGIST
R. Tucker Abbott, Delaware Museum of Natural History, Greenville, Delaware

Commentary on the life of Thomas Say of Philadelphia, who was one of the first malacologists of America.

- 2:20 p.m. MOLLUSKS FROM SOUTHERN NICHUPTÉ LAGOON, N.E. YUCATAN, MEXICO
Susan F. Carnes, Department of Geology and Mineralogy, The Ohio State University, Columbus, Ohio

Vertical changes in the molluscan fauna of several soft carbonate sediment cores from Nichupté Lagoon, Yucatan, reflect the lagoonal history from open marine to its present restricted condition. Previously, Brady (1971) analyzed these cores as part of a project describing the sedimentology and diagenesis of muds in coastal lagoons of Yucatan. Selected cores represent mangrove swamp, back lagoonal marsh, tidal delta and mudbank environments.

SUNDAY--August 4, 1974 (cont'd)

- 2:40 p.m. AN ECOLOGICAL INTERPRETATION OF NUDIBRANCH ZOOGEOGRAPHY IN THE NORTHWEST ATLANTIC
David R. Franz, Biology Department, Brooklyn College, Brooklyn, New York

The distribution of nudibranchs in the northwest Atlantic is discussed. The fauna of New England is described as a subset of the larger boreal Atlantic fauna. The present distribution of amphiboreal species is analyzed in terms of two major ecological correlates: breadth of feeding niches (prey-diversity), and feeding specificity on transient prey. Prey-diversity is suggested as the most important characteristic of amphiboreal nudibranchs.

- 3:00 p.m. MOLLUSKS OF GATUN LOCKS, PANAMA CANAL
Joseph Rosewater, National Museum of Natural History, Smithsonian Institution, Washington, D.C.

Dewatering of Gatun Locks in March 1974 permitted examination of the fauna between freshwater Gatun Lake and the Atlantic Ocean. Collections were made from floors and walls of chambers and from water remaining in sills of lock doors. Analysis of the mollusks shows a definite gradation and increase in numbers of marine species toward the Atlantic and demonstrates the effectiveness of a freshwater barrier in preventing migration through the canal.

- 3:20 p.m. INTERMISSION

- 3:35 p.m. THE TECHNIQUES INVOLVED IN TRACE METAL DETECTION IN AQUATIC ENVIRONMENTS BY ACTIVATION ANALYSIS OF NAIADES (MOLLUSCA, PELECYPODA, UNIONACEA)
Sandra S. Sterrett, The Ohio State University, Water Resources Center, Columbus, Ohio

Naiades concentrate environmental elements and deposit them in annual shell layers. These annual layers can be separated by baking in a muffle furnace. Samples of each layer can then be analyzed by neutron activation to determine the elements present and their concentrations.

- 3:49 p.m. CONCENTRATIONS OF METALS IN THE NAIAD SHELL AND THEIR RELATIONSHIPS TO SEX, AGE, AND SPECIES
Linda D. Saville, The Ohio State University, Water Resources Center, Columbus, Ohio

Using neutron activation analysis, concentrations of metals in naiad shells were determined. Samples of annual layers were prepared from five species. Preliminary results suggest differences between species, age, formation year, and sex are slight.

SUNDAY--August 4, 1974 (cont'd)

3:55 p.m. THE PLEUROCERIDAE AND UNIONIDAE OF MIDDLE FORK HOLSTON RIVER ABOVE SOUTH HOLSTON IMPOUNDMENT, VIRGINIA
David H. Stansbery and William J. Clench, The Ohio State University, Museum of Zoology, Columbus, Ohio

Collections from 22 sites on the 40 miles of Middle Fork Holston River above South Holston Impoundment combined with literature and museum records have revealed the presence of 4 species of pleurocerid snails and 18 species of unionid bivalve mollusks.

4:15 p.m. **IDENTIFICATION OF PECTEN SP. USED IN FIJIAN BREASTPLATES
Glenn A. Long, The Baltimore Museum of Art, Baltimore, Maryland

Numerous shells and nacreous materials are used in the art of the South Pacific. Specific identity of these materials in traditional objects is often overlooked. This report discusses one type of large personal ornament from Melanesia.

4:35 p.m. END OF SESSION

4:40 p.m. DINNER

7:30 p.m. CONSERVATION COMMITTEE--Tolman Hall, Museum of Science; Mrs. Smith Whiteside, presiding. All persons invited to attend.

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MONDAY--August 5, 1974
MUSEUM OF FINE ARTS CONVENER: Don Moore

9:00 a.m. THE VALUE OF ANATOMICAL CHARACTERS IN NAIAD TAXONOMY
Samuel L. H. Fuller, The Academy of Natural Sciences, Philadelphia, Pennsylvania

Several pairs of conchologically similar species (e.g., Elliptio fraterna and E. mcmichaeli) will be used to demonstrate the value of anatomical characters in taxonomy of fresh-water mussels.

MONDAY--August 5, 1974 (cont'd)

- 9:20 a.m. THE EFFECT OF "ONCE THROUGH" POWER PLANT COOLING ON FRESHWATER NAIADS
James M. Stilwell and Duane E. Bell, Battelle, Columbus Laboratories, Columbus, Ohio

Growth rates have been determined for the dominant species of freshwater naiads collected in the vicinity of three fossil fuel electric power plants located on the Muskingum River in Ohio. The species composition and diversity of the naiad population in the area of one of the plants have been compared with data collected 10 years previous. Curves derived from shells collected upstream and downstream of the thermal outfalls of these plants were then compared. No significant differences in growth rates could be attributed to the increased temperatures found downstream of the plants.

- 9:40 a.m. **MOLLUSK UTILIZATION BY NOOTKA INDIANS, 2300 B.C. TO A.D. 1966
Louise R. Clarke and Arthur H. Clarke, National Museums of Canada, Ottawa, Ontario, Canada

An archaeological excavation in the Nootka Indian village at Yuquot, British Columbia has produced 96 cubic feet of faunal remains, including 42 species of mollusks. The mollusks yield significant information about climate, Indian food gathering preferences, seasonality, and methods of food preparation during 4000 years of site occupancy.

- 10:00 a.m. WEST COAST MALACOLOGISTS, A CANDID PORTFOLIO
James H. McLean, Los Angeles County Museum of Natural History, Los Angeles, California

Portraits of malacological personalities taken at meetings of the Western Society of Malacologists.

- 10:20 a.m. INTERMISSION

- 10:35 a.m. THE HISTORICAL LIBRARY OF DMNH
John D. Parker, Delaware Museum of Natural History, Greenville, Delaware

Up until the publication of American Malacologists in 1973 no major attempt had been made to preserve information about workers and collectors in the field of mollusks. Using the biographies submitted for American Malacologists as a nucleus, the Delaware Museum of Natural History is in the process of enlarging and getting pictures of this group. To date about 400 pictures have been gathered.

MONDAY--August 5, 1974 (cont'd)

10:50 a.m. THOUGHTS ON THE FUNCTIONAL MORPHOLOGY AND ECOLOGY OF
PATELLIFORM MOLLUSKS

Elaine Hoagland, Museum of Comparative Zoology,
Harvard University, Cambridge, Massachusetts

The patelliform shell has evolved independently in several lines of mollusks. This is not a single convergence, but is composed of at least three major trends: adaptation for grazing on rocky shores (chitons; Archaeogastropods), adaptation for life on vegetation in creeks and ponds (pulmonates), and modification for life as subtidal, sedentary, filter feeding organisms (Calyptraeacea; oyster-like bivalves). The general benefits and liabilities of the patelliform shell will be reviewed for all mollusks. Ecological parallels between the oysters (including the Anomiacea and Chamacea) and the Calyptraeacea will be related to morphological adaptations in the groups.

11:10 a.m. NOTES ON SOME NEPTUNEIDS
Robert R. Talmadge, Eureka, California

Many of the species of the low Arctic Neptuneids are poorly understood, and there is still confusion in regards to the taxonomy of many of these. This brief discussion covers some recent studies of populations and the distribution of some of the species, answers some of the probable questions, but still leaves many for further study.

11:30 a.m. GROUP PICTURE--assemble in Quadrangle (between Museum of
Science and Museum of Fine Arts)

12:00 LUNCH

CONVENER: Dorothy Beetle

2:00 p.m. BIOLOGICAL ASPECTS OF PLEASANT BAY
George D. Buckley, Museum of Comparative Zoology,
Harvard University, Cambridge, Massachusetts

New England fisheries have been in a steady decline during the past decade--the reasons are many. There are, however, still areas where natural resources are abundant and if properly managed offer potential for substantially increased yields, not only to commercial interests but also to the public at large.

MONDAY--August 5, 1974 (cont'd)

2:20 p.m. **STUDIES ON BIVALVE LARVAE USING CRITICAL POINT DRYING AND SEM

Ruth D. Turner, Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts

The use of the Scanning Electron Microscope has allowed close up photography of larval shells. Studies of the valves of pediveligers for several species of Teredinids have shown differences in sculpture and hinge structure.

By relaxing the pediveligers using magnesium chloride, fixing in gluteraldehyde and critical point drying we are now able to study the fine structure of the velum and foot. Techniques have been worked out to make permanent mounts of minute larval shells by sonically cleaning and drawing them down on plastic discs.

2:55 p.m. SHELL GROWTH RATES IN THE ACTINONAIAS LIGAMENTINA (LAMARCK, 1819) COMPLEX

Mary Ellen St. John, The Ohio State University, Newark Campus, Newark, Ohio

Shell growth rates of Actinonaias ligamentina (Lamarck, 1819) were studied in populations from six rivers in Ontario, Ohio, Kentucky, Tennessee, and Oklahoma. The length of each annual ring on each shell was measured, and the data were used to construct growth curves.

3:10 p.m. AROAPYRGUS COSTARICENSIS HYDROBIID SNAIL HOST OF PARAGONIMIASIS IN COSTA RICA

Emile A. Malek, R. Brenes, and G. Rojas, Department of Tropical Medicine, Tulane Medical Center, New Orleans, Louisiana

Recently it became known that hydrobiid freshwater snails serve as first intermediate hosts of lung flukes which infect humans and other mammals in Central and South America. Aroapyrgus costaricensis a viviparous hydrobiid is the snail host of Paragonimus mexicanus in Costa Rica. This paper deals with its systematics, morphology, ecology, and laboratory-maintenance.

3:25 p.m. INTERMISSION

3:40 p.m. DORMANCY IN MOLLUSKS

Kenneth J. Boss, Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts

Dormant stages in mollusks reflect the amazing flexibility of these organisms to cope with the exigencies of the environment. Both aestivation and hibernation are behavioral phenomena best known among terrestrial and aquatic gastropods, both pulmonate and prosobranch. The ability to sustain dormant physiological states is an important parameter controlling the distribution of species and has had profound consequences in evolution.

MONDAY--August 5, 1974 (cont'd)

4:00 p.m.

THE SHELL IN CEPHALOPOD PHYLOGENY (OR WHY TEUTHOLOGISTS CAN NOT PLAY THE SHELL GAME)

Clyde F. E. Roper, National Museum of Natural History, Smithsonian Institution, Washington, D.C.

The shell has undergone an extreme modification in most Recent cephalopods to such an extent that it is hardly recognizable as a molluscan feature. Even within the class an extensive variation in form and structure exists that ranges from the coiled, chambered, external shell of Nautilus, to the calcareous, finely septate cuttlebone of Sepia, the featherlike gladius or pen of some squids, the cartilaginous stylets of octopuses, to the entire absence of a pen in some species of each major order. The objective is to review shell occurrence and structure, to evaluate its place in understanding phylogeny, and to demonstrate the danger of (putting too many shells in one basket) classifying cephalopods only on shell structure.

4:20 p.m.

MARYLAND AND VIRGINIA MUSSELS OF LISTER

Joseph P. E. Morrison, Division of Mollusks, National Museum of Natural History, Smithsonian Institution, Washington, D.C.

Mussels from the colonies figured as "Mya," "Mytilus," and "Pectunculus" by Lister in 1686 included members of each major group living today in the Chesapeake region. While most of them have been universally recognized since Gmelin and others named them scientifically, two James River species still present surprises.

4:40 p.m.

END OF SESSION

4:45 p.m.

DINNER

7:00 p.m.

EXECUTIVE COUNCIL MEETING--Tolman Hall, Museum of Science

7:30 p.m.

MOVIE--"Undersea Oasis" (color and sound)--Lapidary Room in Museum of Science. All members are invited.

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TUESDAY--August 6, 1974
MUSEUM OF FINE ARTS CONVENER: Dorothea Franzen

9:00 a.m. SPECIATION WITHIN THE TRIODOPSIS FALLAX GROUP (PULMONATA:
POLYGYRIDAE)

F. Wayne Grimm, Design and Display Division, National
Museums of Canada, Ottawa, Canada

Evolution within the polygyrid land snail genus
Triodopsis is discussed as a general introduction to
the specific cases in the Triodopsis fallax group,
which are illustrated and discussed in more detail.
Parallel evolution in shell morphology is shown to be
characteristic of several species groups in the genus.

9:20 a.m. ECOLOGICAL DISTRIBUTION OF LAND SNAILS IN THE CHIHUAHUAN
DESERT OF BIG BEND NATIONAL PARK, TEXAS

W. L. Pratt, Jr., Ft. Worth Museum of Science and History,
Ft. Worth, Texas

Nine species inhabit desert mountains and the Rio Grande
floodplain. Twenty-five species occur in montane wood-
lands of the Chisos Mountains and on the Sue Peaks in
the Dead Horse Mountains. Only one family contributes
to both faunae and no species is common to both.

9:40 a.m. **EVOLUTION OF THE HYDROBIIDAE: AN ANALYSIS OF TWO DISTINCT
LINEAGES

George M. Davis, Department of Malacology, The Academy
of Natural Sciences, Philadelphia, Pennsylvania

Existing taxonomic arrangements of gastropods considered
to be Hydrobiidae result from the analysis of shell,
radulae, opercula, and verges. Analyses of all
morphological traits and their ontogeny leads to the
conclusion that European and North American taxa
allied to Hydrobia are in a lineage (Hydrobiinae)
apart from that involving taxa from South America,
South Africa, Australia, and the Orient. The latter
taxa are currently grouped in the subfamilies
Triculinae and Pomatiopsinae. Characters of importance
in addition to the above mentioned traits are the
ontogeny of the female reproductive system, mechanisms
by which sperm enter the female reproductive system, and
geographic origin of the faunas.

10:15 a.m.

MOLLUSKS IN LITERATURE, ETC.

Morris K. Jacobson, Rockaway Beach, New York

The uses poets, novelists, seers, and prophets as well
as popular myths have made of mollusks. Some remarks
on the trials of museum curators and some slides
referring to Charles Wright (1811-1885) are included.

10:35 a.m. INTERMISSION

TUESDAY--August 6, 1974 (cont'd)

10:50 a.m. CHARACTER WEIGHING IN LAND SNAIL CLASSIFICATION
Alan Solem, Department of Zoology, Field Museum of
Natural History, Chicago, Illinois

A review of the characters traditionally used in land snail classification is followed by an attempt to outline procedures for evaluating the relative significance of varying characters. A suggested methodology for reviewing classifications is presented.

11:15 a.m. CHROMOSOMES OF OREOHELICIDAE (GASTROPODA: PULMONATA)
Noorullah Babrakzai, W. B. Miller, and O. G. Ward,
Department of Biological Sciences, University of Arizona,
Tucson, Arizona

The haploid chromosome numbers of Oreohelix (Oreohelix) anchana and O. (O.) concentrata are $n=32$ and the diploid numbers are $2n=64$. The diploid chromosome number of O. (Radiocentrum) clappi is $2n=62$. Karyotype analyses of the three species indicate cytological differences among them. The chromosome numbers of $n=31-32$ are the highest so far reported in Helicacea.

11:35 a.m. DREDGING OFF VERO BEACH
Kirk W. Anders, Fort Lauderdale, Florida

This slide presentation shows the operation of scallop dredging off Florida's East Coast, on a Factory boat, where the complete operation from dredge to bagged scallop is done on board. At the end of the presentation is a molluscan survey of species other than Pecten gibbus, which were collected during the 4 day trip.

11:55 a.m. LUNCH

CONVENER: Gladys McCallum

2:00 p.m. **FEEDING AND REPRODUCTION IN GYMNASOMATOUS PTEROPODS
Carol M. Lalli, Marine Sciences Centre, McGill University,
Montreal, Canada

Shipboard observations are presented on the feeding and reproductive biology of gymnosomatous pteropods collected in the South Atlantic and Antarctic Oceans during the Hudson 70 Expedition. The feeding specialization on thecosomatous pteropods by the bipolar gymnosome, Clione limacina antarctica, and by a common subantarctic species, Spongiobranchaea australis, is discussed.

TUESDAY--August 6, 1974 (cont'd)

2:25 p.m. DR. JARED P. KIRTLAND, CLEVELAND'S FIRST MALACOLOGIST, AND SOME OF HIS CORRESPONDENCE
Ralph W. Dexter, Department of Biological Sciences,
Kent State University, Kent, Ohio

Dr. J. P. Kirtland collected mollusks from the Mahoning River in Ohio as a young man. Later he returned to practice medicine and study natural history in the Cleveland area. He discovered separate sexes in the Unionidae and the presence of a byssus in larval unionids. He was in charge of Zoology for the first Geological Survey of Ohio. Two letters he sent to the Boston Society of Natural History on Ohio mollusks will be read.

2:45 p.m. A COLLECTING TRIP WITH LERMOND IN THE FLORIDA EVERGLADES
William J. Clench, Dorchester, Massachusetts

3:05 p.m. PREFERRED PREY OF POLINICES DUPLICATUS IN CAPE COD INLETS
D. Craig Edwards, Department of Zoology, University of
Massachusetts, Amherst, Massachusetts

Extensive field observations showed Polinices eats 8 bivalves and 5 gastropods in Cape Cod inlets and indicated preferred sizes and species of prey. Experiments confirmed the predator's overwhelming preference for Mya arenaria, despite training on another diet, but indicated feeding experience may alter choices among low-ranking prey.

3:25 p.m. INTERMISSION

3:40 p.m. **REMARKS ON WESTERN ATLANTIC ANACHIS
Dorothy Raeihle, Elmhurst, New York

Aquarium studies of the egg capsules and embryonic development of Anachis translirata Ravenel (and a subspecies?), A. avara Say, A. floridana Rehder, A. iontha Ravenel, and A. (cf) albella C.B. Adams. Comparisons with some related species and questions thus raised.

4:15 p.m. PHOSPHOLIPIDS OF TWO VERONICELLIDS
M. L. Ibáñez and D. S. Dundee, Department of Biological
Sciences, University of New Orleans, New Orleans, Louisiana

Phospholipids of Veronicella ameghini and V. floridana were isolated and compared. In addition, the fatty acids were isolated and identified for each of the phospholipids. No qualitative differences were found although quantitative differences were detected between the two species. The authors report the presence of cardiolipin, phosphatidyl ethanolamine, phosphatidyl choline, and sphingomyelin with small amounts of phosphatidyl serine and phosphatidyl inositol also present.

TUESDAY--August 6, 1974 (cont'd)

4:30 p.m. REDISCOVERY OF VERRILL'S NUDIBRANCHS AND SEVERAL NEW ADDITIONS TO THE OPISTHOBRANCHS OF NEW ENGLAND
M. Patricia Morse, Marine Science Institute, Northeastern University, Nahant, Massachusetts

Year-round studies at the Marine Science Institute have yielded two new species of Opisthobranchs and numerous observations have been made on the bionomics of New England Nudibranchs. Among those studied are several species first described by the naturalist A. E. Verrill of which little is known of their life-histories.

4:50 p.m. END OF SESSION

4:55 p.m. DINNER

7:30 p.m. SHELL CLUB NIGHT--Mrs. Constance Boone, moderator; Museum of Fine Arts

7:30----Discussion: Preparing exhibits and judging shell shows--Dr. R. Tucker Abbott, Delaware Museum of Natural History

8:10----Questions from the floor

8:30----Shell club reports

9:15----Slide talk: "Many Phases of Melo (Melocorona) amphora, Lightfoot, 1786"--Frank Abbottsmith of Balga, Western Australia

9:45----Films from shell club members on trips, shell club activities, mollusks, and past AMU meetings

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WEDNESDAY--August 7, 1974

MUSEUM OF FINE ARTS CONVENER: Carol Stein

9:00 a.m. THE FALL LINE AS A BARRIER TO THE DISTRIBUTION OF SOME UNIONIDS (BIVALVIA: UNIONIDAE)
John J. Jenkinson, The Ohio State University, Museum of Zoology, Columbus, Ohio

A distribution study of freshwater mussels in east-central Alabama suggests that some of these species may be restricted to the Coastal Plain physiographic province.

WEDNESDAY--August 7, 1974 (cont'd)

- 9:20 a.m. VARIATIONS IN THE APERTURES OF QUADRULA QUADRULA RAFINESQUE,
1820 AND QUADRULA PUSTULOSA (LEA, 1831)
Frank Kokai, The Ohio State University, Museum of Zoology,
Columbus, Ohio

The genus Quadrula Rafinesque has a high degree of variability in aperture size and structure. Aperture papillae occur in distinct clusters, a characteristic of the genus. The papillae differ in number, size, color, and structure among the species. This study shows ranges of variability for Quadrula quadrula and Quadrula pustulosa from Lake Erie.

- 9:40 a.m. **INTRODUCED MOLLUSCS
Dee S. Dundee, Department of Biological Sciences,
University of New Orleans, New Orleans, Louisiana

A discussion of molluscs introduced into the eastern U. S. and an overview of the entire biological introduction situation.

- 10:05 a.m. OBSERVATIONS ON WESTERN ATLANTIC PHILOBRYIDAE
Donald R. Moore, Institute of Marine Science, Miami,
Florida

The Philobryidae are imperfectly known in the western Atlantic. Three species have been described from four localities. Recent investigations show that one species is abundant in the right environment, and that there are additional species in the Caribbean. At least two species of Limopsis should also probably be placed in the Philobryidae.

- 10:25 a.m. INTERMISSION

- 10:40 a.m. **THE UNIONID MOLLUSKS RESTRICTED TO THE TENNESSEE AND
CUMBERLAND RIVER SYSTEMS
David H. Stansbery, The Ohio State University, Museum
of Zoology, Columbus, Ohio

A review of the unionid mollusks found only in the Cumberland and Tennessee River systems has resulted in a greater list than previously known and a theory of origin of this fauna.

- 11:15 a.m. SCAPHOPODS OF THE SOUTHWESTERN ATLANTIC OCEAN
Victor Scarabino, Museo Nacional de Historia Natural
CC 399, Montevideo, Uruguay

The systematics, latitudinal and bathymetrical distribution of 30 species from the Southwestern Atlantic and South American antarctic waters are considered. Also the scaphopod assemblages of the entire Western Atlantic are discussed.

- 11:35 a.m. END OF SESSION

WEDNESDAY--August 7, 1974 (cont'd)

- 11:40 a.m. LUNCH
- 2:00 p.m. ANNUAL BUSINESS MEETING--Museum of Fine Arts. All paid members of the AMU are urged to participate.
- 6:00 p.m. SOCIAL HOUR--Stonehaven Motor Inn
- 7:00 p.m. ANNUAL BANQUET--Stonehaven Motor Inn

AFTER DINNER PROGRAM

Introduction

Address: BIOLOGY 2,000 METERS DOWN IN DSRV/ALVIN, Dr. Ruth Turner, Harvard University

Acknowledgements

Greetings from Past Presidents and other officers

Introduction of new officers

Adjournment of Annual Meeting



Thomas Say 1787-1834
"Father of American Malacology"

Thomas Say was the author of the first paper on Malacology published in the United States. He is the author of many of our common land, fresh-water and marine shells, including 23 species of benthic gastropods found in New England. The following are illustrated in the border.



1. Neptunea decemcostata (Say)
2. Crucibulum striatum Say
3. Crepidula plana Say
4. Crepidula convexa Say
5. Bittium alternatum (Say)
6. Epitonium multistriatum (Say)
7. Epitonium angulatum (Say)
8. Odostomia bisuturalis (Say)
9. Odostomia impressa (Say)
10. Retusa canaliculata (Say)
11. Haminoea solitaria (Say)
12. Lunatia triseriata (Say)
13. Lunatia heros (Say)
14. Natica pusilla (Say)
15. Nassarius trivittatus (Say)
16. Nassarius vibex (Say)
17. Ilyanassa obsoleta (Say)

Neptunea decemcostata (Say)

The official shell of the Connecticut Valley Shell Club, Neptunea decemcostata (Say) ranges from the Atlantic coast of Nova Scotia and Newfoundland south to Massachusetts Bay and Georges Bank. It is found on rocky, muddy bottoms from the subtidal out to depths of about 100 meters. In the Bay of Fundy area it also occurs in the intertidal zone, and south of Massachusetts it may be dredged from the deeper water of the continental slope to off North Carolina.