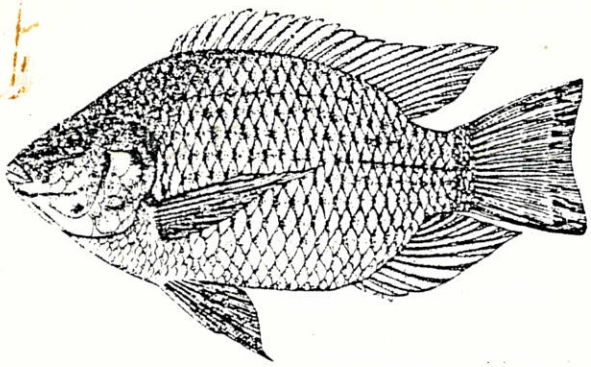

NEWSLETTER
OF THE EXOTIC FISH SECTION
AMERICAN FISHERIES SOCIETY

June 1981 Walter R. Courtenay, Jr., Editor Volume 1, Number 2

From the Section President

The officers of the Section are concerned because several people have expressed the feeling that the Section is against the use of exotic species for beneficial purposes such as sport fishing, weed control, aquaculture, tropical fish industry, etc. Although some members are concerned about the introduction of exotic fish species into the open waters of the U.S. without adequate ecological research before the fish are released, a review of the current membership list shows a wide range of interests. The Section will become what the active members want it to become.

As an indication of the interests in the membership I have appointed Dr. Jerry Shireman as Chairman of the Grass Carp/Hybrid Grass Carp Committee. Anyone interested in this area should contact him. I also have accepted an invitation from Dr. Janice Hughes to join the Ad-hoc Tilapia Committee of the Fish Culture Section. In the future the Exotic Fish Section may also need to set up a Tilapia Committee to provide liaison between the two Sections. Anyone interested should contact me or Dr. Courtenay, the President-elect. Comments on how the Section can aid the Tropical Fish Industry can be sent to Dr. Bob Goldstein.

I feel the Section should stress its mission to encourage the exchange of information concerning all exotic fishes and to foster the wise use of exotic fishes, while protecting the natural environment.

From the Editor

Although we are about two months behind schedule in getting this issue of the Newsletter to you, I think you will find some useful information herein.

I am pleased to report that our Section membership, which stood at 108 as of 1 January 1981, has increased to 170, or 30 persons short of giving us voting status for the Section in the AFS Executive Committee. Recruit your colleagues and graduate students.

Exotic Fish Symposium

The Section is organizing a symposium on the distribution, biology and management of exotic fishes at the 1981 meetings of the American Fisheries Society in Albuquerque. An expanded version of the symposium is to be published in 1982 as a book. The following

topics are to be included in the symposium and book:

History of the Involvement of the American Fisheries Society with Exotic Fishes	James A. McCann
International Transfers of Inland Fishes	Robin L. Welcomme
Colonization Theory Relative to Introduced Fishes	Jay R. Stauffer, Jr.
The Distribution of Exotic Fishes in the United States	Walter R. Courtenay, Jt. Dannie A. Hensley James A. McCann
Exotic Fishes in Canada	E. J. Crossman
Distribution and Known Impacts of Exotic Fishes in Mexico	Salvador Contreras-Balderas
Exotic Fishes in Hawaii and Other Islands of Oceania	John A. Maciolek
Exotic Fishes in Puerto Rico	Donald S. Erdman
Exotic Fishes in Australia	R. J. McKay
Exotic Fishes -- New Zealand's Experience	Robert M. McDowall
Bacterial and Viral Diseases of Exotic Fishes	Emmett B. Shotts, Jr. John B. Gratzek
Parasites of Exotic Fishes	Glenn L. Hoffman Gottfried Schubert
Exotic Fishes in Aquaculture	William L. Shelton R. O. Smitherman
Exotic Fishes for Vegetation Control	Jerome V. Shireman
Exotic Fishes and Sport Fishing	Gilbert C. Radonski
Known Impacts of Exotic Fishes in the Continental United States	Walter R. Courtenay, Jr. Jeffrey N. Taylor James A. McCann
Toward Development of an Environmental Ethic for Exotic Fishes	Charles H. Hocutt Clark Hubbs
A Suggested Protocol Approach for Evaluating Proposed Exotic Fish Introductions	Christopher C. Kohler Jon G. Stanley
Summary	Walter R. Courtenay, Jr. Jay R. Stauffer, Jr. James A. McCann

Remember to mark 16 September 1981 on your calendar; that's the day of the symposium.

National Fishery Research Laboratory

Construction of the 20,000 square foot research laboratory which was funded in 1981 has unfortunately been delayed. The laboratory, sometimes nicknamed the Exotic Fish Laboratory, will continue to operate from the present facility in Gainesville, Florida.

Projects presently funded by the Laboratory include the following:

Dr. Walter Courtenay, Florida Atlantic University, to maintain up-to-date records on the distribution, status and impact of exotic fish in U.S. waters.

Mr. David Lee, North Carolina Museum, to update the "Atlas of North American Freshwater Fishes".

Dr. Richard Robins, Chairman, "Names of Fishes Committee", AFS, to develop a "List of Exotic Fish Species of Economic Importance to U.S. Interests".

Dr. Richard Gregory, Florida Cooperative Fish and Wildlife Research Unit, University of Florida, to support a graduate study by Mr. Alexander Zale entitled "Ecological Impacts and Thermal Biology of the Introduced Blue Tilapia in the St. Johns' River System, Florida".

Contracts to produce species synopses on four species of exotic fish for aquaculture use are on schedule. Dr. Jerry Shireman, University of Florida, has completed a synopsis on the grass carp while Dr. William Shelton, Alabama Cooperative Fishery Unit, Auburn University is completing synopses on three species: Indian carp, *Labeo rohito*; milkfish, *Chanos chanos*, and Mozambique tilapia, *Tilapia mossambica*. An announcement will be made when these are available.

Two new contracts are being initiated with Dr. James Deacon, University of Nevada, entitled "Interactions between Exotic and Native Fishes of the Southwestern United States" and with Dr. Jerry Shireman, University of Florida, entitled "Hybrid Grass Carp Production". This latter study will develop the technology for spawning and rearing of a sterile hybrid grass carp and evaluate it for use as a weed control agent.

The Laboratory is presently working with Dr. Jerry Shireman and Roger Rottman of the University of Florida and Ross Scoloff, President, Florida Tropical Fish Farmers Association, to develop a cooperative study to perfect the use of hormones to initiate spawning in two species of tropical fish, *Labeo bicolor* (red-tailed shark) and *Balantiocheilus melanopterus* (bala shark).

Florida's Non-Native Fish Advisory Group

The Florida Game and Fresh Water Fish Commission recently established a Non-native Fish Advisory Group to review the existing Commission's rules and regulations pertaining to exotic fishes. The Group is comprised of representatives from the Florida Tropical Fish Farmers Association, academic institutions, and Federal and State Fish and game agencies. An initial meeting of this group was held in Lakeland, Florida in April.

Established Exotic Fishes in North America

Several persons have written or called the editor requesting an updated listing of exotic fishes known to be present as breeding populations in the open waters of North America from the Rio Grande northward. So, here is the list with zip code abbreviations for states and provinces.

Species with expanding populations

Acanthogobius flavimanus	yellowfin goby	CA*
Astronotus ocellatus	oscar	FL*
Carassius auratus	Goldfish	Most states*, three provinces
Cichlasoma bimaculatum	black acara	FL*
Cichlasoma citrinellum	Midas cichlid	FL*
Cichlasoma labiatum	red devil	FL*
Cichlasoma meeki	firemouth cichlid	FL*
Cichlasoma nigrofasciatum	convict cichlid	AT, NV*
Cichlasoma octofasciatum	Jack Dempsey	FL*
Clarias batrachus	walking catfish	FL*
Ctenopharyngodon idella	grass carp	AR*, LA*, MS*, TN* and other states
Hemichromis bimaculatus	jewelfish	FL*
Poecilia "sphenops complex"	shortfin molly	CA, MT, NV*, TX
Tilapia aurea	blue tilapia	CA*, FL*, GA?, OK, TX*
Tilapia mariae	spotted tilapia	FL*, NV
Tilapia melanotheron	blackchin tilapia	FL*
Tilapia mossambica	Mozambique tilapia	AZ, CA*, GA?, TX
Tilapia sp.[1]	(no common name)	CA, AZ*
Tilapia zilli	redbelly tilapia	AZ*, CA*, NV, TX

Species with localized distributions (=not expanding)

Bairdiella icistia	bairdiella	CA
Belonesox belizanus	pike killifish	FL
Cichlasoma salvini	yellowbelly cichlid	FL
Cynoscion xanthulus	orangemouth corvina	CA
Hypostomus sp.[2]	suckermouth catfish	FL, NV, TX
Leuciscus idus	ide	CT
Misgurnus anguillicaudatus	oriental weatherfish	CA, MI
Poeciliopsis gracilis	porthole livebearer	CA
Rhodeus sericeus	bitterling	NY
Scardinius erythrophthalmus	rudd	NY
Tinca tinca	tench	BC, CA, CO, CT, ID, NM, WA
Trichopsis vittata	croaking gourami	FL
Tridentiger trigonocephalus	chameleon goby	CA
Xiphophorus helleri	green swordtail	AT, FL, MT, NV
Xiphophorus maculatus	southern platyfish	FL, NV
Xiphophorus variatus	variable platyfish	FL, MT

Species with apparent broad and stable distributional limits

Cyprinus carpio	common carp	Every continental state, several provinces
Salmo trutta	brown trout	Many states, several provinces

Insufficient information available to determine populational status

Hypomesus nipponensis	wakasagi	CA
Poecilia reticulata	guppy	AT, AZ, CA?, FL, NV

* indicates states where populations are expanding or can be expected to expand.
? indicates current status unknown (= still established?)
[1] two unidentified species are established in southwestern Arizona (Yuma County) and are doubtlessly also in Imperial County, California.
[2] three morphologically-distinct species.

If we have missed any records, please let us know. In addition to the fishes listed above, we have records of an additional 65 species that are not known to be established but have been released or collected in North America. We will put that list in the next issue of the Newsletter.

News Note

Item 1 -- A tilapia in the central Pacific? Yes, according to a paper by Phillip A. Lobel published in Micronesica, 16(2). He records the Mozambique tilapia as established along approximately 16 km of the lagoon coastline of Fanning Atoll in the Line Islands. This species is also reported as established in a freshwater lake on nearby Washington Island.

Item 2 -- Our logo for this issue of the Newsletter is the blackchin tilapia, *Tilapia melanotheron*, established along the eastern shore of Tampa Bay and in the Banana River just below Cape Canaveral.

Item 3 -- Robin Welcomme (FAO, Rome) has advised the Section officers that the European Inland Fisheries Advisory Council (EIFAC) is developing guidelines for the introduction of exotic fishes in Europe.

Item 4 -- The annual business meeting for the Section is scheduled for 7:30 PM on the evening of 17 September 1981. There is a possibility that Professor Lev Fishelson of Tel Aviv University will be meeting with us that evening.

Election of Officers for 1981-82

The Nominating Committee, chaired by Dr. Jerry Shireman, has provided the following slate of officers for the Section for 1981-82:

President: Walter R. Courtenay, Jr.

President Elect: Robert J. Goldstein
William L. Shelton

Secretary-Treasurer: Christopher C. Kohler
Paul L. Shafland

Please mark the attached ballot and send it to Dr. Jerome V. Shireman, Center for Aquatic Weeds, University of Florida, Gainesville, Florida 32611 before 1 September 1981.

From the Secretary-Treasurer

Recently an ornamental fish trade magazine listed my name and the Fisheries Research Laboratory of Southern Illinois University-Carbondale as being "an arm" of the Exotic Fish National Laboratory. The SIU-C Fisheries Research Laboratory has been a state university facility for over thirty years, and has no federal status. During this time of severe budget cuts, we are very thankful of that fact.

Hybrid Grass Carp Symposium

Tom Jackson has asked the Exotic Fish Section to give the "Hybrid Grass Carp" Symposium (to be held during the upcoming national AFS meeting) some free advertisement. It looks like an interesting program and should be of interest to much of our membership. Here is the proposed program:

PROPOSED PROGRAM

Hybrid Grass Carp: Biology, Management, and Potential for Aquatic Plant Control

I. Invited Papers

A. History and Status of Hybrid Grass Carp in the United States with Notes on Feeding Behavior and Food Selectivity. — 20 min.

Tom Jackson, U.S. Fish and Wildlife Service, Columbia National Fishery Research Laboratory, Denver Field Lab

B. Genetic Research on Hybrid Grass Carp at the Illinois Natural History Survey. — 15 min.

Dr. David Philipp, Illinois Natural History Survey

C. Chromosomal and Electrophoretic Study of Ctenopharyngodon idella X Hypopphthalmichthys (Aristichthys) nobilis F_1 Hybrids. — 20 min.

Dr. Melvin Beck and Dr. Charles Biggers, Memphis State University

D. Ecological Research on Hybrid Grass Carp at the Illinois Natural History Survey. — 25 min.

Dr. Robert Gorden, Todd Powless, Dr. D. Homer Buck, Larry Coutant, Kathy Ewing, Pamela Tazik, Stephen Waite, and Dr. Michael Wiley, Illinois Natural History Survey

E. Progress Report on Hybrid Grass Carp Research in California. — 20 min.

Dr. Paul Beaty, Hybrid Grass Carp Research Group, Coachella Valley Water District

F. Progress Report on Hybrid Grass Carp Research in Florida. — 20 min.

Rue Hestand and Richard Krause, Florida Game and Freshwater Fish Commission

G. Comparison of Food Preference and Growth at Various Temperatures of Grass Carp X Bighead Carp F_1 Hybrids and Grass Carp. — 10 min.

Leroy Young and Dr. Roy Heidinger, Fisheries Research Laboratory, Department of Zoology, Southern Illinois University

H. Effect of Grass Carp X Bighead Carp F_1 Hybrids on the Vegetation and Fish Population of a 15 ha Illinois Reservoir. 10 min.

Dr. Roy Heidinger and Leroy Young

I. Food Consumption and Preference of Yearling Hybrid Grass Carp. 20 min.

Dr. Timothy Modde, South Dakota State University

J. Aquatic Plant Preferences of Hybrid Grass Carp from 1979 Stock. 15 min.

Dr. David L. Sutton, University of Florida

II. Panel Discussion

A. Format: Each panel member will present a 5 min. discussion of his viewpoint(s) on hybrid grass carp. Following the last panel member's discussion, the panel will field questions and respond to statements from the floor. The moderator will allow only questions pertaining to this panel and not to previous papers,until all questions or statements have been answered or until 15 minutes have elapsed, whichever occurs first. 30 min.

B. Panel Members:

Dr. D. Homer Buck, Illinois Natural History Survey

Mr. Jim Malone, Malone Enterprises, Lonoke, Arkansas

Dr. Robert E. Stevens, U.S. Fish and Wildlife Service

Moderator: Dr. Harry K. Dupree, U.S. Fish and Wildlife Service

III. Informal Gathering

Interested participants on the program and members of the audience will be invited to an informal get-together to be held immediately following the formal presentation for further discussion concerning hybrid grass carp. This will provide an opportunity for group and individual discussions and for those who would like to informally present new ideas, proposals, suggestions, etc. to a group of interested, albeit incipiently inebriated biologists.