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CONVENTION PROGRAMME

FRIDAY EVENING::

8.00 ANGFA Annual General Meeting.

SATURDAY:

8.00 Registration.
8.30 Opening of Convention by ANGFA National President Bruce Hansen.
8.45 Opening Slide Show.
9.00 Richard Carson
"Sweet Fresh Water".
9.30 Dave Wilson
"The Territory Wildlife Park Aquarium".
10.00 Richard Barwick
"Australian Devonian Lungfish: The Grand Daddies of them all".
10.30 Morning Tea.
11.00 Roger Fox
"Ponds, Water Gardens and Pond Life".
11.30 Alison Copperfield
"Koi Keeping Made Easy".
12.00 Peter Beers
"Quarantine of live fish - An Australian perspective".
12.30 Lunch.
1.30 Gerry Allen
"Survey of the Kikori River".
2.30 John Kalish
"To go or not to go with the flow: Life history strategies of headwater stream fishes in the Australian Alps".
3.00 Afternoon Tea.
3.30 Noel Harcourt
"A Fish Collection Strategy for Melbourne Zoo".
4.00 Heiko Bleher
To be announced.
Close.

SATURDAY EVENING:

6.30 Pre-dinner drinks.
7.00 Convention dinner.
8.30 Auction.

SUNDAY:

8.00 Assemble, chat time.
8.30 Opening Video Presentation.
8.45 Bryan Pratt
"On the loose: an Asian import".
9.15 Bill Talbot
"What's happening to native freshwater fish in NSW?"
9.45 Brian Lawrence
"Applying fish research - the River Murray experience".
10.15 Morning Tea.
10.30 Aarn
"Comparative anatomy of Cairnsichthys rhombosomoides, Iriatherina werneri and Rhadinocentrus ornatus".
11.00 Gerry Allen
"1995 Trip to Irian Jaya".
12.30 Effie Howe
"Field and captive studies of the impact of Gambusia holbrooki on Pseudomugil signifer".
1.00 Lunch.
1.45 Eddie Tootell
"The tropical underwater garden".
2.15 Andrew Murray
"Far East Gippsland: This is the way it was".
2.45 Neil Armstrong
The fascinating geographical variations within the Melanotaenia trifasciata species".
3.15 Afternoon Tea.
3.30 Alex Caughey
"The trout cod - back from the edge of extinction".
4.00 Heiko Bleher
To be announced.
Convention close by ANGFA National and ANGFA ACT Presidents.



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Council and Members of ANGFA ACT

The Committee would like to acknowledge the invaluable assistance of Council and members of ANGFA ACT: Andrew Boyd, Leon Buker, Alan Ford, Peter Hughes, Hugh and Jennie Hutchinson, David Manby, Alan Salmon, Hans de Vries, Andy Wattam and Rick Wareing.

Victoria: Neil Armstrong, Ron Bowman, Alex Caughey, June Caughey, Ken Smales.

Queensland: Bruce Hansen, Barry Meiklejohn.

This publication produced by Ron Bowman; Mark Chettle; Ken Smales; Andy Wattam.

WELCOME!!

Please use this weekend to exchange information and make new friends and contacts. Use the pages at the back of this Souvenir Booklet to record their names and addresses.

Take notes, ask questions. This is a unique opportunity to increase your knowledge of our aquatic environment.

Please join in and enjoy yourself

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**AARN***

School of Biological Sciences,
Macquarie University, N.S.W.

Dr. GERALD R. ALLEN

Senior Curator, Department of Ichthyology,
W.A. Museum, Perth

Topic of Discussion:**Comparative anatomy of *Cairnsichthys rhombosomoides*, *Iriatherina werneri* and *Rhadinocentrus ornatus***

A comprehensive study of the anatomy (osteology and myology) of 3 rainbowfish has been undertaken. Research in this laboratory supports the idea that a revised phylogenetic (taxonomic) ordering of the Family *Melanotaeniidae* is in order. Evidence is presented for a much closer alignment of the *bedotins* (Madagascan rainbowfish) with the *melanotaenins* (Australoniuginian rainbowfish). However, *Iriatherina* is considered to belong to a proposed new grouping of *iriatherins*, which on available anatomic and biogeographic evidence is intermediate between the *melanotaenins*, on the one hand, and the *pseudomugulins* (blue-eyes) and *telmathierins* (Indonesian sailfins).

*Aarn (Whitehouse) and Walter Ivantsoff
School of Biological Sciences,
Macquarie University, NSW

About Aarn:

Aarn was born in Sydney in 1957, educated at Barrenjoey High where he preferred rugby, surfing and French to science. He met Peter Surmon in the Sydney Killifish Group in the early 1970s, and since then has followed a convoluted path to pursue ichthyological follies, taking degrees in vet science, philosophy, chemistry and veterinary pathology. After a stint of working at Sydney's Taronga Zoo then tutoring at Sydney University, it was off to PNG as an Australian Volunteer, the first of 5 trips there thus far. In 1994, he did a round-the-world trip with a bicycle, visiting plenty of preserved fish in museums before an accident in the middle of nowhere, Malawi, foreshortened the trip. He is currently undertaking PhD studies investigating the relationships of rainbowfish under the supervision of Walter Ivantsoff, and enjoying the trips to exotic places to find fantastic fish.

Topic of Discussion:**Survey of the Kikori River**

1. This talk will be of Jerry's experiences with the WWF (World Wildlife Fund) and will cover the major survey of the Kikori River in March 1995. He will discuss experiences and results of this trip, including the discovery of a rare blind cave fish, 2 new species of Rainbowfish and the revisiting of Lake Kutubu.

1995 Trip to Irian Jaya

2. This talk will be on the National Geographic sponsored trip to Irian Jaya over a period of two months in July/August 1995. Five major regions previously unexplored for fish fauna; over 120 species of fish were collected with approximately 18 new species. Also collected were some sensational rainbows and blue-eyes including two new species of blue-eyes from the Timika area. Two new species of lake dwelling rainbows were discovered plus two very significant rediscoveries: Ogilby's rainbow *Melanotaenia ogilbyi* and Lorentz' rainbow *Chilatherina lorentzi*.

About Jerry Allen:

B.Sc. and Ph.D. in marine biology from University of Hawaii. Born in Los Angeles 53 years ago, Jerry came to Australia with his wife Connie in 1971 and since 1974 has been Curator of Fishes at the Western Australian Museum. He is the author of 22 books and has published more than 200 scientific and popular articles on coral reef fishes and freshwater fishes. Jerry has a particular fascination for Rainbowfishes and has described over 40 of these beautiful creatures.

Angfa was honoured in the early 90's when Jerry decided to name the Yakati rainbow *Melanotaenia angfa*.

The island of New Guinea is Jerry's favourite destination and he recently obtained a 3 year grant from the National Geographic Society to continue field surveys in remote sections of Irian Jaya, the little explored western half of the island.

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NEIL ARMSTRONG
ANGFA Melbourne,
Wildlife/Fish Photographer

Dr. RICHARD BARWICK
Department of Geology,
Australian National University

Topic of Discussion:

Slide Photography Presentation:

The fascinating geographical variations within the *Melanotaenia trifasciata* species

About Neil Armstrong:

Neil combines a talent for growing aquatic plants with an insatiable curiosity for the fishes that swim in our rivers. He has collected from the streams across southern Victoria, where he first began collecting as a youngster, right up the eastern drainage to the Pascoe River, Cape York as well as several trips into Arnhem Land in the Northern Territory.

Neil has a great memory for details of the fish he collects and keeps, and those who have heard him discuss his hobby are inevitably caught up in his enthusiasm and benefit from his knowledge.

When his old school friend Barry Crockford collected during several trips to New Guinea in the early eighties, Neil looked after the in-coming shipments and enthusiastically photographed the new treasures.

A foundation member of ANGFA, Neil has been generous with time and effort in taking thousands of photographs until today his photographs have appeared in aquarium publications throughout the world.

Now retired, Neil has more time to devote to his photography and his hobbies and we in ANGFA always look forward to his brilliant slides and prints.

Neil has recently returned from Cape York with 9 other ANGFA members (and has added over a thousand slides to his collection) from what turned out to be a 4500 km journey. Neil's photographic talent gives ANGFA members the chance to travel with him as we see the images he captures.

Topic of Discussion:

**Australian Devonian Lungfish:
The Grand Daddies of them all**

Fossil lungfish in Australia document a 400 million year association with the continent extending from the Early Devonian period to the present day. Many of these fossils are beautifully preserved in limestone deposits near Burrinjuck Dam in NSW and at Gogo in the Kimberleys, WA. The preservation allows the limestone to be acid-etched to free the fossils from the rock. The essential design of the lungfish was present in the Devonian marine forms which were much more bony than the modern *Neoceratodus australis*. Lungfish can be divided into two major groups based on their mode of feeding; those with dental plates (with two types of dentition) and those having denticle-covered palates and lower jaws. Some of these early species had a powerful bite aided by massive muscles inserted onto fused lower jaws. Others had a more delicate suction mode of feeding aided by specialised gill arches which supported a denticulated rasping tongue.

The paper will discuss the evolution and functional biology of the lungfish as revealed by the fossil record.

About Richard Barwick:

Dr. Richard Barwick is a former Reader in Zoology at the Australian National University where he lectured for 35 years. His particular interests include the biology of lower vertebrates – reptilia, amphibia and fish – and scientific illustration. Richard retired from teaching in 1992 and is now a Visiting Fellow in the Department of Geology, ANU, where he continues to research Australian fossil fish with his colleague Professor K.S.W. Campbell, with support from the Australian Research Council. Together they have made extensive studies on fossil lungfish from the Devonian limestones of the Taemas-Wee Jasper area of NSW and Gogo, WA. Their recent studies include lobe-finned fishes from the Drummond Basin of Queensland and lungfish from China and the Soviet Arctic.

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Dr. PETER BEERS

Australian Quarantine and Inspection
Service (AQIS)

Topic of Discussion:

Quarantine of live fish – An Australian Perspective

Early quarantine controls on the importation of live fish related primarily to preventing the accidental introduction of snail and plant pests and suitable disinfection of water, although grossly evident clinical disease of imported fish was a cause of rejection. Following a 20 year debate, national quarantine controls on the importation of fish were introduced in the early 1980's. The objective of the program is to detect diseases of fish, prevent the entry of unwanted exotic species, including invertebrates and plants, and enable the safe disposal of imported water. The program includes a period in quarantine for fresh-water ornamental fish. There have been many practical difficulties in implementing this program, especially when the value of ornamental fish is compared to the cost of implementing controls.

The introduction of legislation has been gradual and has resulted in inconsistencies. There is occasional confusion between environmental protection and quarantine issues. In Australia quarantine has as its object to prevent the introduction and spread of pests and diseases, while wildlife protection can consider all things other than disease.

A review of Australia's aquatic animal quarantine policy including live fish is presently being undertaken. This review addresses the necessity to meet Australia's international obligations by facilitating trade, yet still provide adequate protection to the aquatic environment, aquaculture industries (present and future) and recreational and sport fisheries. The Australian approach to quarantine, one of objective risk analysis, is more difficult for aquatic species than for livestock species because of the problems of identifying and quantifying the risks when much of the relevant disease and epidemiological information is not available.

About Peter Beers:

Dr. Peter Beers is a Senior Veterinary Officer with the Quarantine Policy Branch of the Australian Quarantine and Inspection Service (AQIS) – Department of Primary Industries and Energy. He was the AQIS representative on the Advisory Committee On Live Fish (ACOLF) and the Sub-Committee on Fish Health.



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RICHARD CARSON

Aquasonic Pty. Ltd.

Topic of Discussion:

To be announced

About Heiko Bleher

Heiko really needs no introduction to ANGFA members. He has thrilled us with his exciting stories of the remote parts of the world he visits in his never ending quest to collect new fish species. These stories are illustrated with hundreds of slides in a brilliantly entertaining manner which has always been a highlight of our Convention program.

Heiko's passion for the welfare of the world environment and his concern for the shrinking natural world and the fishes and animals that inhabit it is a reminder to us all not to take these things for granted - that what we see and enjoy today may not be there tomorrow.

His fine magazine Aqua Geo gives us a clear insight into these concepts and is but one of the many methods he uses to express his views - TV documentaries, books, articles, and thousands of photographs are his means of communication.

Experienced professional breeders work with his new and reintroduced species at his aquarium installation in Frankfurt, Germany, and from there he distributes the progeny of his collections to the rest of the world.

Heiko usually manages to fit in a visit to our Convention just before a collecting trip to the island of New Guinea and we often see and hear the result of these adventures at our next convention.

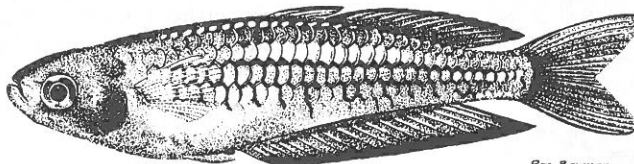
Topic of Discussion:

Sweet Fresh Water

Fish health is directly associated with water quality. Richard will explain in layman's terms which water quality parameters are important, how to measure them accurately, what levels of the parameters are regarded as safe and how to build systems to give important water quality attributes to water, just by design. Assurance of water quality is the best insurance in keeping stock alive. Much of the knowledge and equipment development originated via demand from enthusiastic hobbyists. This technology is now being applied to aquaculture and live seafood systems with great success. Richard will be showing slides of the application of this technology.

About Richard Carson:

Richard has been involved in the aquarium and aquaculture trade in one form or another for more than 25 years. His experience spans from the collection of wild caught stock, import and export, retailing to manufacture. For the last 10 years, Richard with his wife Sue, have specialised in manufacture under the Aquasonic name. In all, Aquasonic makes more than 300 products. These include Test Kits, Filtration Housings and Mediums, Medications, Sea Salt, Water Additives etc. As aquaculture has developed in Australia, Aquasonic has been at the forefront in supplying specialised equipment and systems. A great deal of Richard's time is now spent in the development of radical new equipment and products for Aquaculture.



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ALEX CAUGHEY

Interpretation Officer

Snobs Creek Visitor Centre, Eildon, Victoria

Topic of Discussion:

The Trout Cod – Back from the Edge of Extinction

The Trout Cod is one of Australia's most endangered fish species which is the subject of a National Recovery Plan.

We will look at the history of the species with emphasis on the causes of its decline. Then we look at the recovery

plan and its implementation and the future prospects for the species.

About Alex Caughey:

Alex has been involved with fish keeping virtually from birth. His father was a pioneer of fishkeeping in Scotland in the 1940's and 50's when equipment was built, not bought.

Alex has been keeping fish since the early 1960's and has kept and bred a wide variety of species. He was attached to the National Fauna Squad in the mid 1970's, investigating the import and export of fish, both legally and illegally, and the quarantine implications of these activities.

He worked for Pet & Aquarium Industries in a number of roles including, Livestock Manager and Marketing.

He is currently based at the Visitor Centre of the Snobs Creek Freshwater Fisheries Research Station and Hatchery as an Interpretation Officer and Aquarist.

Alex has been involved with the organised hobby for almost 20 years and has held a host of positions with various clubs and the Victorian Federation of Aquarium Societies. He has also lectured and judged events for Victorian and interstate clubs. His hobby credits include Life Member, Eastern Districts Aquarium Society, Foundation Member ANGFA and Judge, Royal Agricultural Society of Tasmania. He has over 50 species registered with the Breeders Achievement Awards. He is currently *Bulletin* editor for ANGFA and President of ANGFA (Victoria). A prolific writer, he contributes articles to a range of aquarium hobby, conservation and technical publications in Australia and overseas.

Alex was recently appointed to the Freshwater Fish Specialist Group of the Species Survival Commission, International Union for the Conservation of Nature (IUCN).

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John Cornille



ALISON COPPERFIELD

Koi Society of Australia

Topic of Discussion: Koi Keeping Made Easy

About Alison Copperfield:

Alison is a breeder of prize winning Koi and a well known identity in the Koi Society of Australia. She has spent a number of years as Editor of the Koi Society, is a delegate for the Shoalhaven branch of the society, and is also currently the membership officer.

Alison has been a high school science teacher for over 30 years. She is also the author of *Koi for Beginners*, which the Koi Society of Australia published in 1985. By 1994, this book was out of date, so Alison convinced the society to publish a new book, *Keeping Koi in Australia*, which she also wrote.

1994 was a special year for Alison. At the Open Koi Show, her home-bred Koromo took out champion in its class, beating a top commercial competitor. She was also honoured by the Koi Society with a Life Membership, in recognition of her contributions.



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ROGER FOX

Editor, *Practical Aquariums & Water Gardens*

NOEL HARCOURT

Melbourne Zoo

Topic of Discussion:**Ponds, Water Gardens and Pond Life**

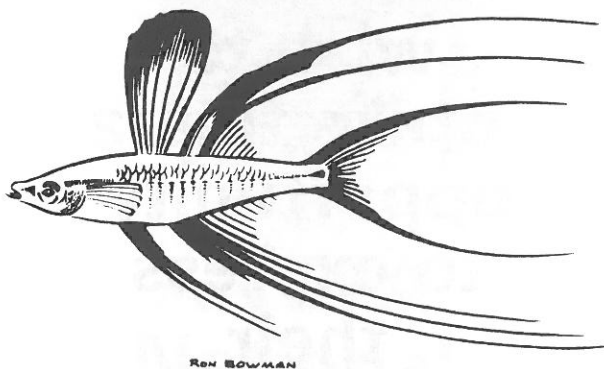
Like the aquarium, the backyard pond provides a medium for growing plants and keeping fish and other life forms. Creating a successful pond or water garden is a case of blending the essential and the decorative into a cohesive whole. The result can be an almost maintenance free feature.

This talk will provide an overview of design options, pond filtration methods, and suitable plants, fish and other livestock.

About Roger Fox:

After completing a Bachelor of Applied Science degree at the University of Western Sydney (Hawkesbury) in 1984, Roger worked in banking and rural industries, before moving into journalism. He has since worked as a features writer and editor, specialising in the fields of horticulture and natural history. His travels have taken him over much of Australia, England and Europe, observing and photographing plants and wildlife.

Roger is currently editor of *Practical Aquariums & Water Gardens* magazine and *Practical Hydroponics* magazine, as well as consultant editor to the *Australian Garden Guide* magazine.

**Topic of Discussion:****A Fish Collection Strategy for Melbourne Zoo**

On the 20th of April this year the fish collection strategy for Melbourne Zoo was completed together with a fish species listing covering some 100 species. Noel Harcourt, Chandi de Alwis from Melbourne Zoo and Angus Martin, Head of the Zoology Department at Melbourne University, made up the working group. The strategy covers areas such as:

1. Summary.
2. Introduction.
3. Feasibility and Recommendations.
4. A Proposed Fish Species List.

This strategy was presented and formally approved and will be put into operation throughout Melbourne Zoos bioclimatic zoning masterplan. A brief outline of this strategy will be presented.

About Noel Harcourt:

Prior to commencing work at Melbourne Zoo, Noel worked in wildlife parks which enabled him to gain valuable experience within the field of animal husbandry.

Noel joined Melbourne Zoo in 1985 in the Reptile Department and has worked in the education keeping department which, he headed, for 12 months as acting keeper in charge. Noel now works within the carnivore department where he is responsible for the husbandry of the Big Cat collection which includes Pumas, Jaguars, various Leopard species, Cheetahs and also Maned Wolves.

Before becoming involved with ANGFA Noel was on the management committee of the Australasian Society of Zookeepers (ASZK) where he served as president for several years. Noel's ambition is to see the fish representation within Melbourne Zoo become a reality as well as promoting fish keeping as a worthwhile hobby. Noel's other interests include exhibit design, Bromeliads, aquatic plants, native and South American fish and gardening.

Noel lives in Greensborough, an outer Melbourne suburb, with his wife Jenny and their two children, Simon and Chloe.



EFFIE HOWE

Fish Biologist

Topic of Discussion:

Field and captive studies of the impact of *Gambusia holbrooki* on *Pseudomugil signifer*

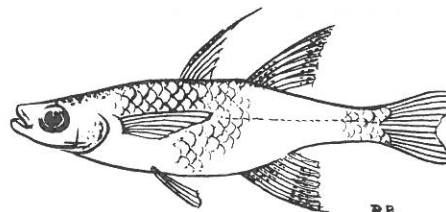
The impact of the presence of the introduced *Gambusia holbrooki* on *Pseudomugil signifer* was examined, first in open-air tank experiments, and then in the field. In the tank experiments the exotic species profoundly affected the breeding of the native species. When *Gambusia holbrooki* were in the tanks *Pseudomugil signifer* did not gain weight or grow in total length (except for females given supplementary feed); ovarian weight and fecundity was greatly reduced and the ovaries were morphologically undeveloped. No eggs from *Pseudomugil signifer* were observed in tanks which also housed *Gambusia holbrooki*. *Gambusia holbrooki* were observed to actively hunt and eat young *Pseudomugil signifer* and to nip the caudal fins of adult *Pseudomugil signifer*. The results indicate clearly, that at least in a captive situation, the presence of the exotic species has a very deleterious effect on breeding and hence possible survival of a native population.

A summer field study after these experiments did not reveal such drastic consequences. However, even in the less confined field situation, some evidence of an interrelation between water quality, numbers of *Pseudomugil signifer* and numbers of *Gambusia holbrooki* were seen in one disturbed site (Homebush Bay). These findings suggest that further field studies could well reveal adverse effects of the pest species on this native species.

The information gained from these studies can be used in the management of *Pseudomugil signifer* in the wild, and serve as a model of the possible effects upon other native species.

About Effie Howe:

Effie has a Bachelor of Applied Science majoring in environmental biology, a Master of Science and has recently submitted a PhD, entitled "Studies in the Biology and reproductive characteristics of *Pseudomugil signifer*", based on some of the work that she will be presenting at this conference. Effie works at CSIRO Food Science and Technology. She has had an interest in fish since a child and has kept Australian native freshwater fish (mostly rainbow fish) as a hobby for nearly twenty years. A particular interest is the breeding of fish and their embryology.



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Dr. JOHN M. KALISH

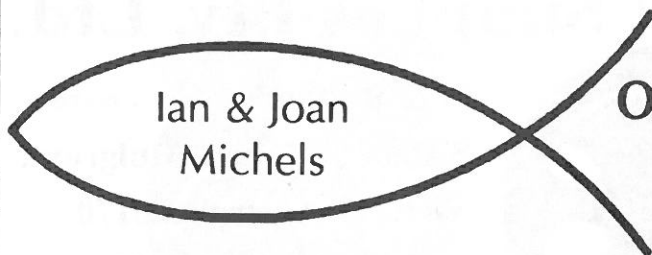
Division of Botany and Zoology,
Australian National University, Canberra, ACT

Topic of Discussion:**To go or not to go with the flow:
Life history strategies of headwater stream
fishes in the Australian Alps**

Two species of native fish dominate the unmodified headwater streams at high elevations on the western draining slopes of the Great Dividing Range in the ACT. The mountain galaxiid *Galaxias olidus* and the two-spined blackfish *Gadopsis bispinosus* can co-occur in many of these systems; however, they display dramatically different life history strategies. Eggs of the mountain galaxiid develop attached to rocks in riffles and other high energy regions of streams. Larvae of the mountain galaxiid are excellent swimmers immediately after hatching and begin feeding before completion of yolk sac absorption. In contrast, the larger eggs of the blackfish are guarded by a male and the newly hatched larvae are unable to swim due to their large yolk and early stage of development. Despite the dramatic differences in life history, these two species are likely to have successful recruitment under similar environmental conditions. The life history strategy of these species is contrasted with that of *Macquaria ambigua*, a species that is adapted to downstream advection of eggs and larvae. Both the mountain galaxiid and two-spined blackfish make excellent aquarium fish, but, like their life histories, display completely different characteristics in captivity.

About John Kalish:

John has been involved with research on fish for almost 20 years. At the University of Miami (Florida), he worked on a satellite oceanography project which aimed to relate Atlantic bluefin tuna distribution to habitat. Among other things, this involved getting up at 3:00 am, travelling to the National Hurricane Center, relating undersea features to satellite derived sea surface temperatures and ocean colour, and then calling individuals associated with the sportfishing fleet near Cape Hatteras and telling them where to fish. At other times he was able to get closer to the fish and was involved with acoustic telemetry studies of the movements of swordfish and Atlantic bluefin tuna off the coast of Florida. This work was followed by studies of deep-sea and midwater fishes in the North Pacific, with the major thrust being the development of multiple frequency acoustic techniques capable of quantifying and identifying fishes in oceanic sound scattering layers. Moving to Tasmania in 1984, John hoped to work on southern bluefin tuna, but somehow managed to get involved in research on the chemistry of otoliths from a range of fish species. Moving east, to New Zealand in 1990, he began working on the age and growth of marine fish at the Ministry of Agriculture and Fisheries and, even though New Zealand is nuclear free, became involved in research that related fish age and the atmospheric detonation of nuclear weapons. Having seen few live fish in the previous 10 years, John decided it was time for a change and in 1993 took a position as a lecturer in the Division of Botany and Zoology at the Australian National University in Canberra. This has given him the opportunity to work with both freshwater and marine fish. His studies of freshwater fish range from investigations of the recruitment of *Galaxias olidus* and *Gadopsis bispinosus* in headwater streams to research on the biology of *Macquaria ambigua* in the deserts of South Australia and during the Pleistocene at the Willandra Lakes.

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BRIAN LAWRENCE

Murray-Darling Basin Commission

Topic of Discussion:

Applying fish research - the River Murray experience

In 1989 the Murray-Darling Basin Commission commenced a major research program into the biology of native fish in the river system. A management plan for fish habitats along the River Murray was already in place to guide the research priorities, and by the end of June 1995, over \$3 million worth of significant research work had been completed.

What has eventuated from this research effort? Although not very widely known, this program has revolutionised our understanding of the biology and requirements of fish in the Murray-Darling system. More importantly, the findings of this program have resulted in profound changes to the management and operational procedures undertaken by a number of agencies. It is rare in the natural resource management field to achieve this degree of uptake of research findings into management actions. A selection of the many examples of this uptake include:

- augmenting flood peaks to increase fish spawning;
- operating locks as fishways to increase fish migration;
- constructing fishways to overcome migration barriers;
- improving dam operations to enhance fish survival; and
- trial restocking to increase recruitment.

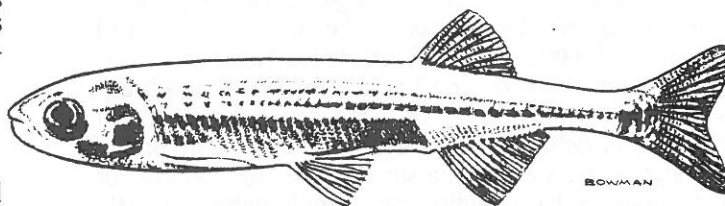
The key contributing ingredients to this uptake have been pooled funding arrangements, an agreed interstate management framework and high quality science. The long term future of native fish in the Murray-Darling system is hopeful provided the political commitment, as seen in the recent cap on diversions of water, is maintained.

About Brian Lawrence:

Brian graduated from the Canberra College of Advanced Education with a Bachelor of Applied Science in 1982. After working at the CSIRO Division of Land Use Research, he joined the former River Murray Commission, working in the areas of water quality monitoring and protection, and river operations. Brian is currently a Senior Environmental Scientist with the Murray-Darling Basin Commission, and for some 10 years has been working on riverine environment issues throughout the Murray-Darling river system. He is primarily concerned with improving water management for fish populations, wetland environments and flood-plain vegetation.

He manages the Commission's Basin-wide fish research program, and co-ordinates the Commission's management of fish habitats along the River Murray through his

Fish Management Plan. Much of his work involves translating research findings into practical management outcomes. He is currently working on the development of optimum flow regimes which integrate the various ecological requirements of the riverine environment, and has a strong commitment to the incorporation of research information into management actions.



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ANDREW MURRAY

Endangered Fauna Planner,
Department of Conservation & Natural Resources

Dr. BRYAN H. PRATT

Retired, Researcher, Lecturer

Topic of Discussion:**Far East Gippsland: This is the Way it Was**

In relative terms, far East Gippsland, Victoria, is "remote". This remoteness from the major population centres of Melbourne and Sydney has meant that the impacts that European man has had on both terrestrial and aquatic environments across most of South-East Australia have not taken place, to the same extent, in far East Gippsland. East of the Snowy River there are no major barriers to fish passage, few exotic species have been introduced, and relatively little of the area has been cleared for agricultural or pastoral purposes.

The low level of human disturbance has resulted in freshwater fish assemblages which are essentially "intact"; they are presumably the same as those which were around when the first Europeans arrived. This is a unique situation in South-East Australia.

This discussion will review the species, habitats, management strategies and threats to the freshwater fish of far East Gippsland, Victoria.

About Andrew Murray:

Andy was raised and educated in South Australia, where pygmy perch and blackfish are all but gone! A graduate of the Natural Resources Management Course at Roseworthy Agricultural College in 1989, he has been living in Marlo, East Gippsland for six years, where he is no longer surprised at the sight of *Nannoperca*, *Gadopsis*, or even *Galaxias truttaceus*!!

Employed by the Department of Conservation and Natural Resources as the Endangered Fauna Planner, Andy is usually tied up with the management and research of Tiger Quolls, Brush-tailed Rock-wallabies, Long-footed Potoroos and Little Terns (all of which are simply highly evolved fish!). He has been involved however in getting fish surveys included as part of the pre-logging flora and fauna surveys, the "rediscovery" of the Orbost Spiny Crayfish, and simply getting aquatic management issues "on the agenda".

A mug fisherman who occasionally catches a suicidal bream at Marlo, Andy keeps the odd native fish from time to time. His main "fishy" interests at the moment continue to involve the Orbost Spiny Crayfish, planning a project investigating how two species of normally migratory galaxiids are dividing up the food resource between them in a land-locked lake and trying to stamp out the threat of *Gambusia* in the Wingan River.

Topic of Discussion:**On the Loose: An Asian Import**

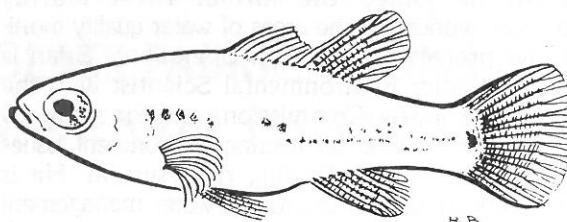
Misgurnus anguillicaudatus or Weather Loach is an aquarium species of Asian origin which escaped to the wild in the Australian Capital Territory in the 1980's. It now appears to be firmly established in a variety of waterways in the ACT and adjoining areas of NSW. Significant populations have developed in the Murrumbidgee River and various tributaries, farm dams and Lake Eucumbene in the Snowy Mountains. Population size suggests there may be significant competition for food and space between *Misgurnus* and other introduced and native fish species. An assumed predation of *Misgurnus* by other fish species is discussed.

About Bryan Pratt:

Dr. Bryan H. Pratt B.Sc. Agr; B.Ag.Sc.(Hons); Ph.D. has had a chequered career. A former researcher and lecturer at the Australian National University in Canberra he joined the Commonwealth Public Service in 1974 and was Director of Agriculture and Conservation, then Forests, in the Department of the Capital Territory until his retirement in 1988.

He is a prolific writer and photographer, being the author of 74 research papers, several thousand magazine articles, numerous chapters in books, encyclopaedias and other angling texts and the Canberra Fisherman.

In retirement he is Field Editor for *Fish, Tackle and Boat*, columnist for *Australian Fishing and Boating News*, prepares a weekly angling column for the *Canberra Chronicle*, presents two radio and one TV segment each week, contributes to various magazines, operates a tackle shop in Belconnen in the ACT and teaches the Fishing Industry Service Course at the Canberra Institute of Technology.





R. BILL TALBOT

Manager, Recreational Fisheries, NSW Fisheries,
Pymont NSW

EDDIE TOOTELL

ANGFA Melbourne, Aquarist

Topic of Discussion:

What's happening to native freshwater fish in NSW?*

In addition to suffering a prolonged drought, NSW freshwater fish populations are under stress from a variety of factors. NSW Fisheries sees the protection and restoration of freshwater fish stocks, and maintenance of inland recreational fisheries vital priorities.

This presentation will give a brief overview of some of the research efforts of the NSW Fisheries Research Institute, including the impacts of thermal pollution, the status of threatened fish species, some new evidence of recruitment processes and the fishways program. There will also be an outline of current management strategies and some future directions for the management of our inland fish and fisheries.

*Co-authors - Dr. John Harris and Mr. Martin Mallen-Cooper, NSW Fisheries Research Institute, Cronulla NSW.

About Bill Talbot:

Bill has been with NSW Fisheries for 11 years, working in a number of technical positions involved in research into estuarine fish ecology and Australian bass breeding. In his last few years with the Research Division he has worked as a Senior Technical Officer at the Port Stephens Research Centre, involved in developing marine fish breeding technology.

He moved to Sydney to take up a position as Recreational Fisheries Manager in April 1994, and mainly deals with freshwater fishing issues. He has found himself embroiled in a long list of interesting activities, but luckily is a keen angler and can indulge in complete self interest while attempting to improve the lot of freshwater fish species.

Topic of Discussion:

The tropical underwater garden

Eddie will give a talk, illustrated with some slides, on how to set up a successful tropical underwater garden for freshwater fishes.

About Eddie Tootell:

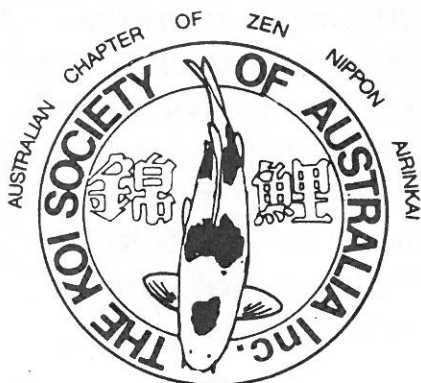
Eddie's first aquarium was a glass battery case kindly given to him by a neighbour at the age of eight. The two medakas and the sprig of elodea was where it all started, way back then in 1950.

Eddie joined the A.S. of V. in 1957 in the first intake of associated members which was created to allow young aquarists to join the society.

The hobby lapsed for a few years whilst he took up scuba diving and underwater photography. Eddie has dived and photographed extensively in Victorian waters, the Great Barrier Reef, the Coral Sea and Fiji. He also has dived at Lake McKenzie on Fraser Island.

Eddie entered the profession of fishkeeping when he joined A&I Aquarium Centre, begun by Rick Datodi and Kevin Wagner in 1970. He developed and ran the largest aquarium service call division in Melbourne at that time. The retail chain evolved to become Pet & Aquarium Industries of which Eddie became the purchasing manager. During this time he travelled to Japan, Hong Kong, Taiwan and Singapore seeking new products, fish and suppliers for the trade.

In 1987, Eddie left the industry and now works for Ansett Australia. Eddie remains very active in the hobby and concentrates on growing and maintaining aquatic plant species. He also dabbles in breeding Rainbows when spare room and time permits.



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DAVID WILSON
Territory Wildlife Park,
Berry Springs, Darwin

NAMES AND ADDRESSES

Topic of Discussion:

The Territory Wildlife Park Aquarium

About Dave Wilson:

David became a keen angler at a very early age and started keeping native fish as an extension of this. As is sometimes the case, he gradually became more interested in the bait than the "real" fish and from that he developed a fascination with habitats and distributions and ultimately how and where to catch the less common members of our native fish fauna. He met up with Andy Wattam in Canberra in 1980 and as a result added breeding to his interests.

In 1992 Dave made a major career change and resigned from the Australian Federal Police, (after 12 years), and joined the Aquarium staff of the Territory Wildlife Park at Berry Springs, South of Darwin. Now he is enjoying the challenge of keeping fish, (and the associated technology), on a big scale, and is probably the envy of many of us at this convention.

SOUVENIR AUTOGRAPHS

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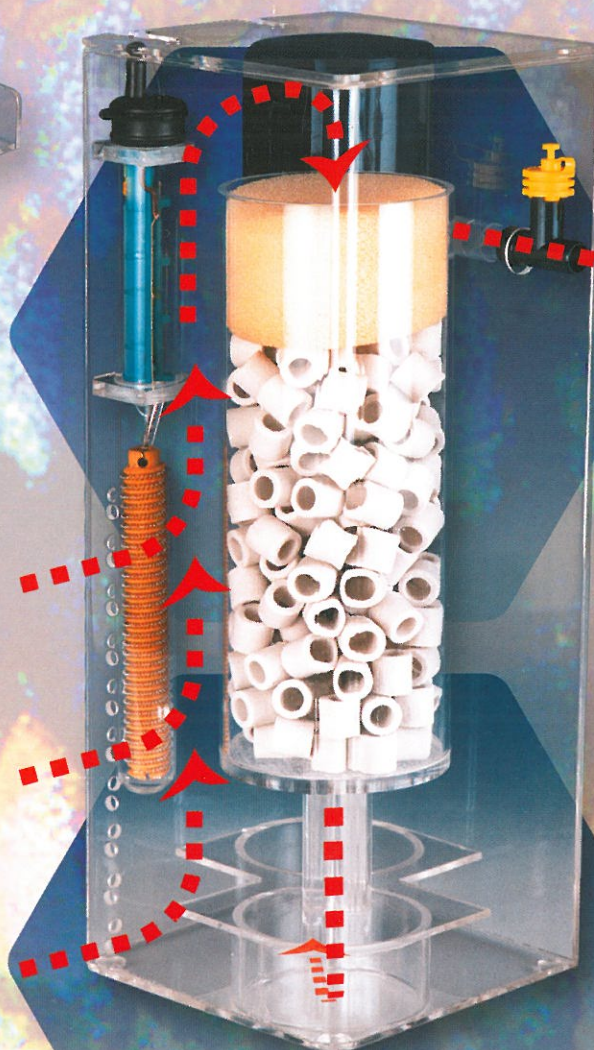
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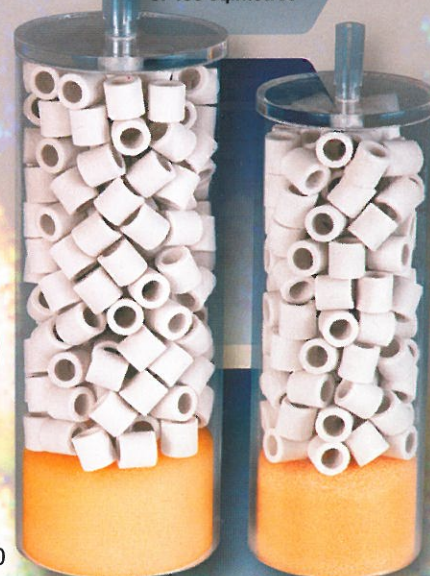
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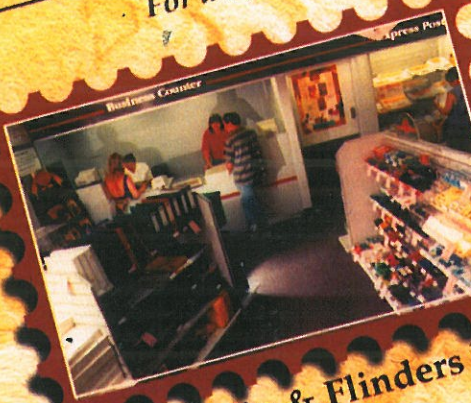
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