

in Cajun Country, by Cajuns, for Cajuns, and a few other good people."

2. GRAND MER CORPORATION, 23687 HOO SHOO TOO ROAD, BATON ROUGE, LOUISIANA 70817: PHONE (504) 756-8227. Grand Mer Corporation is the manufacturer of "Trap Guard tm" which is a professional crawfish fishing tool that prevents crawfish from escaping from traps. It is a plastic cone that fits around the surface of the trap funnel preventing the crawfish from easily crawling onto the funnel and out of the entrance.

Note: Business memberships are \$50.00 and help to offset the cost of gratis memberships made to astacologists from countries with currency exchange problems. Each is acknowledged in the newsletter immediately after receipt and in the Directory Astacologists published between international symposia.

A NOTE FROM THE PAST

The drawing of the dreaming crayfish comes from the front piece of the Second Scandinavian Symposium on Freshwater Crayfish, Lammi, Finland, 25-27 September 1979. It was sent by Kai Westman over a decade ago. The artist was M. Utrianinen.



IAA MEMBERSHIP

Dues for the period April 1990 - April 1992 are now due. A membership form is enclosed for your convenience. Please pay your dues promptly. Whether you have paid your dues nor not, please make copies of the dues form and recruit additional IAA members. Membership is open to anyone or any firm with a strong interest in astacology. Use the application form. Those with monetary exchange problems may petition the secretariat for a reduction in dues to \$12.50 for regular dues or no dues. A statement that demonstrates keen interest in and contributions to astacology must accompany any request for reduced dues or no dues.

Return address: Secretariat, P. O. Box 44 650, University of Southwestern Louisiana, Lafayette, Louisiana 70 504, USA



IAA Newsletter

Volume 12, Number 3
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EDITORS NOTE

The IAA Newsletter is EuroAmerican joint venture and as always there are problems with postage time and computer communications. This newsletter have another layout than previous volumes, and it is the privilege of any editor to make such changes. Hopefully, this will increase readability and information access. However we can not provide you with more information than the information you send to us. Please, use the form for information to the Newsletter and help us to produce a useful Newsletter that can benefit us all.

Jay Huner and Jostein Skurdal

8TH INT. SYMPOSIUM OF ASTACOLOGY

Over 100 delegates from Europe, Africa, North America, Central America, and Australia attended IAA's April 1990 symposium in Baton Rouge, Louisiana. Some 80 presentations, oral and poster, were made. A delegation of Soviet fisheries specialists represented the first Russians to attend an IAA meeting. A list of the titles and authors will be included in the next Newsletter.

Inquiries about extra copies of the abstract

8TH INTERNATIONAL SYMPOSIUM

Baton Rouge,
Louisiana
April 22-26, 1990
International
Association of
Astacology



booklet should be directed to: Mr. L. W. de la Bretonne, Jr., IAA Symposium Coordinator, Louisiana Cooperative Extension Service, Knapp Hall - LSU, Baton Rouge, Louisiana 70803 USA.

Freshwater Crayfish VIII, A Journal of Astacology will be published through the auspices of the Louisiana State University Agricultural Center, the symposium's sponsor. Dr. Robert P. Romaine will direct that effort and will contact presenters for contributions.

IAA - Official news.

The new officers are David Holdich, President, Jay Huner, President-Elect, and Jostein Skurdal, Secretary/Treasurer. Addresses are listed on the masthead. The University of Southwestern Louisiana has been selected as the IAA's Permanent Secretariat. The Secretariat will be managed by Jay Huner. Jostein Skurdal and Jay Huner will jointly organize the quarterly newsletter with Jostein managing mailings to Europe, western Asia, the Middle East and Africa and Jay managing mailings to North, Central, and South America, and the Pacific Region including eastern Asia, Australia, and New Zealand.

Honorary life membership has been conferred on Past Presidents Ossi Lindqvist, Kuopio, Finland, and Pierre Laurent, Thonon-les-Bains, France in recognition of their past and current contributions to IAA. Professor J. N. Kossakowski has been honored posthumously with honorary "life" membership for his past contributions to IAA. A plaque will be forwarded to his family in remembrance of these efforts to bring astacological information to astacologists in

Eastern Europe.

The next IAA meeting is scheduled for 5-10 April 1992 in Reading, England. It is being organized by Dr. G. F. Warner and President David Holdich. Members contemplating the trip are asked to fill out and return the enclosed form.

A procedure has been established to provide astacologists from countries with currency exchange problems to join at either the student rate, or, if that is not possible, free upon approval of the officers.

IAA will continue to support its association with the Am Society of Zoologists which meets over the Christmas holiday period annually in the USA.

The IAA's financial status is stable with a balance of about \$7,000 US. Membership as of April 21, 1990 was 278.

S. ABRAHAMSSON MEMORIAL LECTURE

The Sture Abrahamsson Memorial Lecture has been an important part of the IAA Symposia since it was first initiated at the Davis, California meeting in August 1981. Dr. Abrahamsson was a prominent Swedish astacologist who was deeply involved in the introduction of signal crayfish to his native Sweden. He was one of the "founders" of the IAA. However, he died shortly after the first symposium in Hinterthal, Austria. He is survived by his wife Maja Abrahamsson Hamilton who is an active member of IAA. The individual chosen to present the lecture in Baton Rouge was Professor Charles Goldman, a prominent astacologist from the University of California at Davis. His topic was, "Global Impact of Climate and Landscape Change on Crayfish Ecology and Introductions". The text of the presentation will appear in the symposium proceedings. It emphasized the adaptation of signal crayfish, *Pacifastacus leniusculus*, to various lacustrine and riverine habitats in the western USA, its native range, and its subsequent introduction into Europe, especially Sweden.

AM. SOC. OF ZOOLOGISTS/IAA MEETING

The ASZ meeting is scheduled for December 27-30, 1990 in San Antonio, Texas. Crayfish papers from member societies including IAA will be put together in one or more paper sessions. IAA is soliciting an individual(s) IAA member who will agree to chair the session. Individuals interested in submitting papers and/or chairing the session should contact Ms. Mary Adams-Wiley, Executive Officer, American Society of Zoologists, 104 Sirius Circle, Thousand Oaks, California 91360 USA, Phone (805) 492-3585/Fax (805) 492-0370. North American members should expect a separate mailing from ASZ.



SYMPOSIUM POSTER

The 8th International Symposium of Astacology poster is available. It depicts a cajun (Acadian) crawfisherman harvesting crawfish in a wooded Louisiana crawfish farm pond. This full color poster is 33cm x 51cm and the artist is Frankie Gould. Use enclosed order form.

CRAYFISH STUDIES IN S. LOUISIANA

The Crawfish Center at the University of Southwestern Louisiana has approximately 20 ha of crayfish ponds and welcomes inquiries from scientists interested in studying crayfish there. Limited housing is available for periods of several weeks to several months. Funding is very limited and it is unlikely that moneys for honoraria would be available; however, individuals wishing to experience warmwater crayfishes in natural and cultural environments should consider the opportunity if they have independent sources of support such as sabbatical moneys. Crayfish are most active during the February - May period but are available from October through June. Those interested in studying crayfish in burrows will find plenty of specimen during the summer months. For more information, contact: Jay Huner, Director, Crawfish Center, University of Southwestern Louisiana, P.O. Box 44650, Lafayette, Louisiana 70504 USA; phone (318)231-5239/fax (318)231-5395.

FRENCH CRAYFISH IMPORTS IN 1989

According to an article by Pierre Laurent (reference

in Publications of Interest to Astacologists), French crayfish imports were as follows in 1989: Frozen - Spain 210.1 t, Turkey, 57.15 t, USA, 13.2 t, and other countries, 3.2 t and Live - Turkey 201.3 t, Greece, 18 t, Spain, 10.7 t, USA, 3.4 t, Yugoslavia, 3.4 t, and other countries, 1 t. The dominant species were *Astacus leptodactylus* and *Procambarus clarkii* with small quantities of *Astacus astacus* being imported.

PASSINGS

Word comes from the Wrights, John and Katherine, and Horton H. Hobbs, Jr. that they are doing relatively well after some health set backs (John and Horton, not Katherine). All three regret not being able to attend the IAA symposium in Baton Rouge. All have supported IAA strongly and Horton is one of our few honorary life members.

Expect Horton and his son Horton III to identify a new species soon. That should not be so unusual for the Hobbses but this should affect the aquaculturists quite a lot.

Unfortunately, Milt Topping of Springfield, Missouri was unable to attend having died about a year ago. Milt was a very aggressive proponent of crayfish aquaculture in the center of the USA using indigenous species. His enthusiasm will be missed.

CRUSTACEAN NUTRITION

The Crustacean Newsletter (Volume 6, Number 1, 1990) includes the following crustacean nutrition bibliographies. There are a number of crayfish citations in them. Crustacean Nutrition Bibliography: 1. Pigments by T. Letchia, pp. 8-24; 2. Feed Attractants by J. Castell, pp. 25-32; 3. Lipids by L. R. D'Abramo & J. Castell, pp. 33-41; 4. Crustacean Broodstock Nutrition by H. J. Ceccaldi, 42-50; 5. Anatomy of Digestive System by H. J. Ceccaldi, 51-55; 6. Digestive Physiology by H. J. Ceccaldi, pp. 56-58; 7. Minerals by F. Piedad-Pascual and J. D. Castell, pp. 59-61; 8. Vitamins by D. E. Conklin, pp. 62-64; and 9. Protein and Amino Acids by J. D. Castell, pp. 65-67.

The Crustacean Nutrition Newsletter is published by the World Aquaculture Society. Inquiries should be directed to WAS, 16 E. Fraternity Lane, Louisiana State University, Baton Rouge, Louisiana 70803. Editors are John Castell and Linda D. Boston, c/o Dept. of Fisheries & Oceans, P.O. Box 550, Halifax, Nova Scotia B3J 2S7, Canada.

PROCAMBARUS CLARKII IN CHINA

Wu Xingyong (Department of Biology, Nanjing Normal University, Nanjing, People's Republic of

China) has sent a short manuscript about *P. clarkii* in his country. This will be published in its entirety in the proceedings of the Eighth Symposium of Astacology. Dr. Wu states that 7,700 tonnes is consumed annually in Nanjing and that the estimated harvest in Jiangsu Province is much more than 10,000 tonnes. This coupled with news from the Wuhan area that production is at least 2,000 tonnes annually provided by Dr. Shu Xinya (Hubei Fisheries Science Research Institute, No. 18 Donghu Road, Wuhan 430071, People's Republic of China) means that China is clearly a force to be reckoned with in the international crayfish picture. Dr. Wu states that the common name for crayfish is "Wanrenhen." This means a creature hated by everyone. This is not hard to understand because the species was foreign to China before World War II when it was introduced from Japan and caused much damage to earthen water control structures.

CRAYFISH PRODUCTION IN AUSTRALIA

The value of the 1988-89 freshwater crayfish crop in Australia was given as \$2 million Australian with projections for 1989-90 and 1994-95 being \$10 million and \$80 million, respectively. Source: *Austasia Aquaculture Magazine*, 1990, Volume 4, Number 7.

MORE ON PSOROSPERMIUM

Ms. Paula Henttonen (Dept. of Applied Zoology, University of Kuopio, Kuopio, Finland) spent a week at the beginning of May 1990 studying *Psorospermium* at the Crawfish Center at the University of Southwestern Louisiana. She screened several populations of *Procambarus clarkii* and *Procambarus acutus acutus* in culture ponds at the Center for presence/absence of *Psorospermium*. It was present in all individual ponds checked but was more obvious in *P. clarkii*. Discussion with pathologists at Louisiana State University in nearby Baton Rouge (Drs. R. Thune and J. Hawke) and Louisiana State University botanist Dr. Meredith Blackwell was fruitful. Their observations and those of Ms. Henttonen suggest the possibility that *Psorospermium* may be a fungal organism.

CRAYFISH CULTURE IN USSR

Member V. P. Fedotov (Smolnego Street, 3 Leningrad 193311, USSR) sends the following information about crayfish culture in his country. We hope that members will correspond with Mr. Fedotov and send available literature.

"For newsletter's information and I report that regarding the previous ideas about the crayfish breed-

ding many changes have occurred in our country now. We have organized a department for industrial utilization and breeding of crayfishes in Soukkoz/Viborsky/Leningrad region. The Swedish firm Thomesto-Smith AB has assisted us to get equipment for processing crayfishes. I and my son suggested a technology for breeding of crayfishes/*Astacus astacus* L. It is now incubating in the nursery of Aquacultura. The nursery was built in Soukbaz, Viborsky. The technology is grounded on the fact that instead of 3-4 years in natural conditions the crayfishes reach the state of sexual maturity in artificial conditions in 8-10 months. After that the crayfishes are released to ponds or lakes for their continued growth. At the present we are arranging commodity forms in the lakes. We receive now many letters from various regions of USSR with the request to help them in organizing of these commodity farms for breeding of crayfishes. Now we are conducting weekly courses of lectures for all who are interested in it. I traveled in 1988-89 to Astrahan and Restov na Donu. In the neighborhood of Restov; they have the commodity farm with a nursery. Its name is Aksaiskoe. On this commodity farm and in the nursery they are breeding crayfishes (*A. leptodactylus* Esh). Near Astrahan the breeding of crayfishes (*A. l. leptodactylus*) is also being started.

In our department there was organized a laboratory for hydrochemical analysis. We are faced by serious problems with training of specialists in crayfish diseases. Unfortunately such specialists are not trained at our high schools. For the processing of crayfishes on the plant there will come supplies of crayfishes from different regions.

To make our crayfish farm more profitable we also breed mollusks (*Ahotina fulica*) and exotic fishes. I hope to receive from you information about the demand for these products and requirements to them.

I hope to develop the idea of organizing and creation of ecologically clean departments and farms. They are being planned in Pscovis and other regions of USSR. From the populations of crayfishes *A. astacus* literature sent by you and my contacts. I am very interested in information about farms, which breed crayfishes (*A. astacus* and *A. leptodactylus*). Especially I am very interested in equipment and work organization in nurseries."

AUSTRALIAN CRAYFISH POND DIET

This was prepared by member Dr. N. M. Morrissy (W.A. Marine Labs, Box 20, North Beach, Western Australia 6020, Australia). See the reference in

Publications of Interest to Astacologists.

Formulation % Raw Ingredients Fish Meal (Danish) 8.0 Meat Meal 9.0 Blood Meal 1.0 Wheat 10.5% 55.0 W. A. Lupins 18.0 Tallow coater 5.0 Binder (calcium lignosulphonate) 2.5 Salt 0.3 Methionine 0.2 Premix * 1.0 *(Vitamins and minerals, including choline - a specified proprietary premix will be obtained.) Proximate Analysis: Protein, 21.825%, Carbohydrate, ???, Fat, 8.7330%, Fibre, 4.3420%, calcium/phosphorous, 1.0259/ 0.7296, and sodium, 0.2371.

Manufacturing specifications: The premix is to be free of domestic stock feed health additives e.g. coccidiostats; The diet will be produced as a 4 mm short pellet; The grain ingredients (wheat, lupins) will be finely ground; The pellet needs to be physically stable in water, at least overnight; and each batch is to be analyzed for pesticides with a copy of the laboratory analysis accompanying each lot distributed to a user. Estimated cost, initially, ranges from \$0.45-0.50 Australian per kg.

THE LOUISIANA SOFT CRAWFISH

Authored by D. D. Culley and L. F. Duobinis-Gray. This is a revision of the 1985 manual, Producing Soft Crawfish, which contains an update of soft-shelled crawfish research since then. Provides complete instructions for producing soft-shelled crawfish for commercial markets in recirculating water systems. Includes chapters on selecting the site and water source for a culture system, building and maintaining the system, and processing and marketing the soft crawfish. Cost is \$10 US per copy. Order from Louisiana Sea Grant Communications, LSU Center for Wetland Resources, Baton Rouge, Louisiana 70803-7504 USA.

CRAWFISH TASTING AND TRADE SHOW

This was the seventh combined Louisiana Crawfish Farmers' Association meeting and annual tasting and trade show. It was held March 2-3, 1990 in Lafayette, Louisiana. The theme of the association meeting was developing more markets and resolving industry problems involving low prices. Several speakers from Texas and California described methods to promote crawfish out of state. They stressed the need for quality products. A legislative task force meeting to seek solutions to problems in the industry suggested a lack of mutual understanding of problems between producers and processors which seemed to exacerbate price problems. All agreed for the need to develop quality control standards. Most felt that sizes of 10-15 per pound, 16-24 per pound and 25-30 or 35 per

pound would be well received by the industry corresponding to export grade, restaurant grade, and peeler grade. All present reported lower production from ponds and reduced acreage of ponds. A bitter cold period during the Christmas holiday period was generally blamed for poor production. Low prices were the cause of reduced acreage.

There were over 80 exhibitors at the tasting and trade show. Suppliers of the industry included bait and feed producers, trap and hardware firms, container businesses, pipe companies, refrigeration companies, and manufacturers of harvesting vehicles. Food, craft and university (Louisiana State University and University of Southwestern Louisiana) were present. Numerous cooking contests and demonstrations were held. Texans won both the crawfish cooking and boiling contests, the first times that the events had been won by people from someplace other than Louisiana.

The Louisiana Crawfish Farmers' Association is the world's largest association devoted to crawfish culture. Its quarterly magazine, Crawfish Tales, is a must for any serious crawfish culturist. Memberships are \$30 US each. Contact: Louisiana Crawfish Farmers' Association, P.O. Box 9656, New Iberia, Louisiana 70562. Phone (318) 367-5861.

AUSTRALIAN NATIONAL SYMPOSIUM

The National Freshwater Crayfish Aquaculture Symposium was conducted in Perth, Western Australia on 26-27 May 1990. It was a forum for crayfish farmers, researchers and fish food industry personnel. Topics included pond management practices, post harvest handling and crayfish product marketing. Speakers included research scientists from the USA, Western Australia, Tasmania, Queensland, New South Wales, and the Northern Territory and crayfish producers and marketing personnel. More information about the conference may be obtained from: The Conference Secretary, National Symposium on Freshwater Crayfish Aquaculture, School of Medical Technology, Curtin University of Technology, GPO Box U1987, Perth, Western Australia 6001, Australia.

CRAYFISH CONSUMPTION IN EUROPE

Member Ossi Lindqvist (Dept. of Applied Zoology, Univ. of Kuopio, P.O.B. 6, SF-70211 Kuopio, Finland) made the following comments when addressing the referenced subject in April 1990 during a visit to Lafayette, Louisiana. Crawfish consumption in Europe can be traced to the 13th century in the courts of the Hapsburg kings. They consumed crawfish not out of necessity but to show that they were different and superior to the common people who were not



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Membership application 1990 - 1992

Name:
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Field of interest & species:
Fees: Regular US\$25 Student US\$12.50 Business US\$50
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IAA Label pins US\$4 No
8th IAA symposia poster(signed) US\$15 No

Must be paid in US\$ to secretariat. Check in USA or international money order or draft drawn on an American bank.

allowed to eat them. The first records of crawfish consumption in Scandinavia were made in the 15th century when King Gustav I issued orders for ponds to be stocked with crawfish. For many centuries the kings of Europe maintained a monopoly on crawfish consumption but crawfish gradually became available to commoners.

A problem was the arrival of the crawfish fungus plague from the USA in the late 19th century. As a result, crawfish became very scarce and prices rose accordingly. Today, the native noble crawfish is one of the most expensive crustaceans in the world commanding prices of as much as \$4.00 each for 40 gram animals in the Helsinki market each summer. This must be tempered with the realization that it costs the fisherman about \$2.00 each to catch legal sized crawfish. The Louisiana crawfish industry is very important in stabilizing the Scandinavian crawfish industry. The frozen cooked Louisiana crawfish are sold for about 50 cents each in Scandinavia making them more affordable to the man on the street. Without this "safety valve" the price might reach such high levels that traditional summer crawfish festivals and parties might be lost.

CRAWFISH NUTRITION

One of your editors, JVH, is conducting in pond feeding studies with various feedstuffs for *Procambarus* spp. Both open pond and enclosure cages within ponds are being used. Feedstuffs include rice bran, grain sorghum, pelleted and broken crawfish baits, pelleted crawfish feeds, and catfish feed. Some of these materials have also been tested as baits in broad based crawfish traps. Significant findings include: crawfish populations show positive growth responses when fed but these generally are not economically favorable because of a negative reaction between density and growth; feeds that disintegrate within 15-30 minutes are just as effective as feeds and baits as those with 24 hour water stability; and crawfish baits appear to be effective supplemental feeds. Direct inquiries to Jay Huner, Crawfish Center, P. O. Box 44650, University of Southwestern Louisiana, Lafayette, Louisiana 70504 USA.

COMPUTER MODEL OF PROCAMBARUS

Member Robert Romaine (School of Forestry, Wildlife & Fisheries, Louisiana State University, Baton Rouge, Louisiana 70803 USA) has developed a working computer model of *Procambarus* spp. population dynamics in hypothetical Louisiana crawfish ponds. This model permits the prediction of optimal harvesting rates to maximize income while minimizing costs.

This model should eventually have application in management of wild populations of crayfishes around the world.

RECENT PUBLICATIONS

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BUSINESS MEMBERSHIP ACKNOWLEDGEMENTS

I. REX MILLING COMPANY, INC., P.O. BOX 11738, NEW IBERIA, LOUISIANA: PHONES (318) 364-0466/Louisiana Watts (free) (800) 256-1796. Rex Milling Co. is a manufacturer of REX quality feeds. It produces the following crayfish products: Rex Super Cool Winter Crawfish Bait for use at temperatures below 65 F (19 °C), Superex Crawfish Bait for use at temperatures above 65 F, and Rex 25% Shellbuster Crawfish Feed. The Rex motto is, "Made



Meetings, conferences, etc:

Application for contact/information:

General:

Reply form - Information to IAA-Newsletter

Name:

Address:

Current research:

Recent publication:

Personnel news(transfer, appointments, etc):

Course of instruction:

Remember to mail your new address to the IAA-secretariat!

After Baton Rouge!

9th INTERNATIONAL SYMPOSIUM of ASTACOLOGY - 1992

- Venue** - University of Reading, England
Close to London, Heathrow and
Gatwick Airports and the
motorway system
- Dates** - Sunday, 5th April, 1992 (registration)
Friday, 10th April (depart)
- Organisers** - Dr G. F. Warner,
Aquatic Biology Research Unit,
University of Reading,
Reading RG6 2AJ,
England
- Dr D. M. Holdich
Department of Zoology,
Nottingham University,
University Park,
Nottingham NG7 2RD,
England
(FAX: (0602) 420825)

As we have to block book accommodation and facilities 18 months in advance it would help us greatly to know approx. how many people might attend. If you think that you might attend then please complete the slip below and return it to one of us at or soon after the Baton Rouge meeting. Thank you.

9th International Symposium of Astacology - 1992

I am interested in attending this meeting: Yes/No

Title and name:

Accompanying persons

needing accommodation (number):

Address:

Please return to George Warner or David Holdich