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NEWSLETTER

J.F. Payne and J. Huner, editors

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MEMBERSHIP -- We regret to inform you that we still have not received records from Canada. Thus, with the exception of dues received in Memphis since January 1986, we simply do not know who paid dues at the Lund Congress and since then. If you find a red asterik next to your name on the address label, we have received your dues. Please take the time to write to Dr. Payne today and send your \$20 dues, request that your name be striken from our mailing list, or inform us that you did pay your dues. We are especially concerned about people who paid dues but do not appear on the mailing list that is available to us. If you know of any such individuals, please let us know.

IAA PINS -- A number of individuals have ordered IAA pins since the first of January. We regret to inform those members that we have yet to receive the pins from Canada. We will fill orders as soon as we receive the pins.

SEVENTH CONGRESS, INTERNATIONAL ASSOCIATION OF ASTACOLOGY -- Place: Lausanne, Switzerland. Dates: 3-5 August 1987. Chairman of Organization Committee: Professor Pierre Goeldin, Directeur du Musee Zoologique de Lausanne. Meeting Place: Palais de Rumine, Center of the City of Lausanne, postal address, 6 Place de la Riponne, CH 1005 Lausanne, Switzerland. Registration Fee: Participants, 220 Swiss Francs; students and accompanying persons, 110 S.F. (US \$1 = 2.5 S.F.). Hotels: 1986 prices per night, breakfast, taxes and service charges includes:

	Hotels***** to **** with bath or shower	Hotels*** to * without bath
single room	170-110 S.F.	55-23 S.F.
double room	220-150 S.F.	80-38 S.F.

For information on accomodations: Tourist Office and Convention Bureau, 60 Avenue d'Ouchy, CH 1000 Lausanne 6, Switzerland. Meals: Lunch, 25 S.F.. There is a large choice of restaurants around Palais de Rumine including cheap fast food restaurants. Post-symposium excursions: A one or two day excursion to a place of interest for astacologists will be arranged.

CRAYFISH MEETING HELD IN SPAIN -- A meeting titled "Jornadas de Estudio Cangrejo de Rio" was held 9-10 May 1986 at Vitoria. Titles of papers and authors were: Alva el medio fisico y el cangrejo de rio - J. R. Gonzalez Tapia; La afanomicosis, aspectos sanitarios del cangrejo e rio - L. Cuellar; El cangrejo rojo de las marismas. Historia de una introduccion, A. Habsburgo-Lorena; Gestion de recursos naturales. Los aguas continentales, G. de Jalon Diego; Reproduccion y desarrollo del cangrejo serra (Pacifastacus leniusculus), R. Fernandez;

Cultivo del cangrejo autoctono, M. Coll; Estudio de las Poblaciones en los rios. Perspectivas, C. Temino; Repolaciones en la Peninsula Iberica, metodologia, J. Celada; Experiencias recientes en los rios ingleses. Estrategias de recuperacion, J. B. Hogger; Metodologia de cultivos de repoblacion. Cien anos de experiencias europeas, S. Karlsson; Especies y distribucion. Interes de su explotacion y mercado, P. J. Laurent; and El hongo de la afonicosis, S. L. de Ajuric. For information write: Seccion de Aguas; Direccion de Investigacion y Formacion Agro pesqueras; Departamento de Agricultura Y Pesca; Gobierno Vasco; Apartado 46, 01080 Vitoria, Spain.

ASTACOLOGISTS IN MEXICO -- In recent months several astacologists have contacted us about their work there. Information about them follows:

1. Esther Perz Hurtado (c/o Dra. Meredith Gould, Lab. de Reprod. Animal, UMF-ENEP-UNAM, Tlalnepantla, Mexico, Mexico). Ms. Hurtado is studying the biology of Cambarellus montezumae of the upper Panuco Basin in the state of Mexico, Mexico. Maximum total length is 45 mm. This species is not abundant in her sample zone; however, it is very abundant in a reservoir named Trinidad Fabela of the upper Lerma. There, it is commonly captured and prepared for food in several ways. It may be roasted and eaten in tacos with gravey, boiled and prepared with cilantro, onion and chili for tacos, and frittered with eggs and gravy.
2. Ernesto Campos-Gonzalez (Profesor of Zoologia, Escuela de Ciencias Biologicas, U.A.B.C., Apartado Postal 2300, Ensenada, Baja California, Mexico). Prof. Campos-Gonzalez has been studying sexual aberrations and tumors in Procambarus clarkii. He would like to correspond with astacologist who have observed such phenomena with other crayfishes.
3. Miguel A. Morales Mora (Ezequiel Alatraste # 94, Col. Tamborrell. Xalapa, Veracruz, Mexico). Mr. Morales Mora has been studying the biology of Procambarus (A.) llamasii in the state of Veracruz. He believes that it may prove suitable as a candidate for aquaculture. He also wishes to investigate the commercial value-potential of two other local procambarid species, P. (A.) acanthophorus and P. (A.) r. ruthveni.
4. M. C. Ana Denise Re Araujo (Centro de Investigacion Cientifica y de Educacion, Superior de Ensenada, Apartado Postal No. 2732, Ensenada, Baja California, 22800, Mexico). Ms. Re Araujo has been studying various aspects of the biology of Procambarus clarkii from Baja California. Of interest to astacologists are Mexican names for crayfish including "CAUQUE" and "ACOCIL". A recent publication is: Re Araujo, A. D. and L. F. Buckle Ramirez. 1985. Crecimiento y sobrevivencia de Procambarus clarkii Girard (Crustacea, Decapoda) con diferentes temperaturas y dietas isocaloricas. (Growth and survival of Procambarus clarkii Girard (Crustacea, Decapoda) with different temperatures and isocaloric diets). Ciencias Marinas 11(2):39-68 (30). Ms. Re Araujo is especially interested in comparisons of life histories of P. clarkii in different geographical regions of the world and examining its value as a food resource in Mexico where it is now little used.

CRAYFISH HARVESTOR PATENTED IN USA -- The following patent was recently issued: Cain, Jr., C. D. and R. A. Bean, Jan. 14, 1986. Process and apparatus for harvesting soft crayfish. U.S. Patent No. 4,563,830. The abstract states: "A process and apparatus for harvesting soft shell crayfish wherein a predetermined pulsating electrical field is established in front of a moving conveyor assembly having a pulse rate which allows the tail of the crayfish to contract in synchronization with the pulse rate causing the crayfish, in most cases, to move toward and be captured by a moving trawl assembly having a conveyor or assembly which transports the crayfish to an area to be sorted and stored for shipping."

CRAYFISH CULTURE IN KANSAS (USA) -- Dr. H. E. Klaassen (Div. of Biol., Kansas State Univ., Manhattan, Kansas 66506 USA) notes that his students and he are investigating the feasibility of culturing Orconectes nais in Kansas. He notes, "When I checked the Kansas fish growers I found that many do sell crayfish for bait, but their crayfish production is incidental to fish production. The species that they have been selling and the one that we are working on is Orconectes nais. We are studying growth, distribution, reproduction, and factors effecting mortality. We eventually want to get into supplemental feeding studies. Based on

what we have observed so far, this species probably has the most potential for commercial culture in the central states. It is well adapted to ponds, is a non-burrower, and gets large enough for human food."

Procambarus clarkii AROUND THE WORLD --

1. Peoples' Republic of China - Shu Xinya (Hubei Province Fishery Research Institute, No. 18, East-Lake Road, Wuhan City, The Peoples' Republic of China) writes that, "The crayfish (Procambarus clarkii) was introduced from Japan to Shanghai area in China before 1949. The Hankou Fish Farm in Wuhan City introduced the species into the pond in 1974. Now, it is found in some lakes, canals and ponds in Wuhan, especially in Tung-Si Hu area. It is proved that the species is adaptable to the area. But it is said to cause damage by digging holes and pre-dating young fish. Therefore, it has not been taken seriously." Shu Xinya is very interested in exploiting this species and welcomes correspondence on the matter.
2. Nevada (USA) - A. Dr. James Pollard (Environmental Research Center, University of Nevada, Las Vegas, Nevada 89154 USA) notes that P. clarkii is doing well in the lower Colorado River in the slower canal type habitats, and that it exists in both lakes Meade and Mojave (probably Havasu, too) although depth distribution in the lakes is not yet known. It is a very important component of the diet of the introduced striped bass, Morone saxatilis. Dr. Pollard as recently received funds to study the life history of P. clarkii in Lake Meade.
B. Mr. Jack Barnett (107 Valley View, Boulder City, Nevada 89005 USA) has sent specimen of adult P. clarkii recently collected from Lake Meade where he finds the species abundant around the shores, under rocks in shallow water. They apparently do not burrow in the lake. They are common in a large drainage ditch called Flamingo Wash in the middle of Las Vegas. He knows of no markets for the crayfish but notes that it is caught for food and fish bait in the Bowman Reservoir in Overton, Nevada.
3. California (USA) - According to Seafood Business (May/June 1986, Volume 5, Number 3, Camden, Maine USA) culture of P. clarkii is being actively promoted in rice fields in the Sacramento River Delta. Specialist Don Gooch is developing a hatchery because conditions are poor for burrowing of brood stock, the "secret" of Louisiana style crayfish culture. About 60 ha is now being stocked with 6 million hatchery produced juvenile crayfish.
4. Zambia - IAA Member C. J. Grubb (P.O. Box 60287, Livingstone, Zambia) has been culturing P. clarkii for some years now. He has developed an interesting hatchery/nursery to supplement natural reproduction in his earthen ponds. It is made from reinforced concrete (about 10 m long by 3 m wide by 1.5 m deep). It has a biofilter. The water is exchanged periodically and used to irrigate banana plants. Mr. Grubb stocked this system in January 1986 with 50 adult male and 50 adult female crayfish and had removed 6000 juveniles up to 7.5 cm in total length by the end of April 1986. The crayfish fed on algae, rabbit pellets, and blanket weed taken from a nearby pond.

CRAYFISH IN LOUISIANA (USA) --

1. The crayfish season is now ending in Louisiana. The catch of Procambarus clarkii and P. a. acutus from 48,500+ ha of earthen ponds and natural waters was in the range of 30,000-50,000 metric tonnes. Prices to producers were disappointingly low, averaging less than \$1.20 per kg, despite a poor wild crop. A general depression in the state is given as the reason for low prices as about 80 % of the crop is consumed locally. About half of the crop is sold whole for boiling and the remainder is peeled for abdominal muscle (tail meat). Much of the meat was sold for low prices during the season and relatively small amounts have been frozen for the June-November off season. As a result prices will be over \$15 per kg. One firm, Louisiana Crawfish Wholesalers, Inc. (P.O. Box 4171, Houma, Louisiana 70361 USA) was recently incorporated with state backing to package and warehouse crayfish meat for off season, out-of-state sales. It has just gone into operation.
2. The Third International Crawfish Tasting and Trade Fair was held 20-21 February 1986 to promote use of Louisiana crayfish products. It was a great success with over 6000 visitors including people from throughout the USA and overseas. Information about this annual affair may be obtained from the Louisiana Crawfish Farmers' Association (P.O. Box 91544, Lafayette, Louisiana 70509 USA). Numbered and signed posters from the first three fairs are available at modest costs from the LCFA.

3. Louisiana's Crawfish Industry - Dr. Lynn E. Dellenbarger (Dept. of Ag. Economics and Agribusiness, Louisiana State University, Baton Rouge, Louisiana 70803 USA) has conducted several studies about the market potential for Louisiana crayfish and crayfish products outside of Louisiana. Copies of his various reports may be obtained by writing to him at Louisiana State University.

4. Annual Aquaculture Field Day - The Louisiana State University Agricultural Center has the largest, most active research program dealing with crayfish culture. It conducts an annual aquaculture field day every May to provide the general public with information about its programs and the results of its studies. Further information may be obtained from Dr. James W. Avault, Jr. (School of Forestry, Wildlife and Fisheries, Louisiana State University, Baton Rouge, Louisiana 70803 USA).

AUSTRALIAN CRAYFISH TOUR -- A tour of Australian crayfish culture facilities has been organized by Mr. Al Smith (Box 1014, Denver, Colorado 80210 USA, phone 303, 871-8536, telex 810-251-0735). Dates are 2-17 October 1986 with a cost of about \$2700 from San Francisco, California (USA). A detailed brochure about this trip is included with US and Canadian newsletters. Individuals desiring further information should contact Mr. Smith directly.

INFORMATION ABOUT CRAYFISH ASSOCIATIONS REQUESTED -- We will be pleased to reference crayfish associations in future issues of this newsletter. Officers of such associations are requested to send particulars about their organizations to us.

IAA MEMBERSHIPS/DUES -- Membership is open to anyone with an interest in the study of crayfishes. Dues are \$20 for the interval between international symposia (2 or 3 years). A newsletter is issued quarterly and symposia proceedings are published. Inquiries or dues should be sent to Dr. James F. Payne, IAA, Dept. of Biology, Memphis State University, Memphis, Tennessee 38152 USA.

