INTERNATIONAL ASSOCIATION
OF ASTACOLOGY
I. A. A.

Volume 6, Number 1

January, 1983

NEWSLETTER

IAA - LUND, 1984

Stellan Karlsson sends a report from the Scandinavian Committee which is organizing the 1984 meeting of the IAA in Lund, Sweden. He notes that a final invitation, call for papers and other information will be published in the Spring of 1983. The tentative outline for this meeting is

Date	Primary Session	Secondary Session
August 12	Registration Field trip with party	
August 13	Registration Opening Sture Abrahamsson memorial lecture Scandinavian Information Structure and Function 1 Diseases and Defence Mechanisms 1 Phylogenetics, Distribution and Dispersal 1 Board Meeting Work shops	Structure and Function 2 Diseases and Defence Mechanisms 2
August 14	Aquaculture 1 Study tour (Bus) Ecology and Behaviour 1 Poster session Work shops	Aquaculture 2
August 15	General Assembly Reports on Research & Development 1 Poster session Close of symposium	Ecology and Behaviour 2 Reports on research and development 2

POST CONGRESS TOURS START. SEVERAL OPTIONS.

COMMUNICATIONS

I. R. BILLS reports that at the Copperbelt Power Company Farm in Kitwe, Zambia there are 30 Tilapia/Sarotherodon fish ponds covering 7 hectares. He notes that the farm has obtained "several hundred" Procambarus clarkii and studying the possibility of introducing these into existing fish ponds which are heavily fed with chicken manure and maize bran. He wishes to receive information from members on farming methods and life history data on P. clarkii. His address: c/o Water Engineering Ltd., P.O. Box 20291, KITWE, ZAMBIA.

Alan A. DEVCICH is currently in the first year of a three-year feasibility study of farming New Zealand's native species of freshwater crayfish. He plans a two month trip to Europe and the United States in July and August, 1983. During his travels, he wishes to meet crayfish farmers who are using scientific techniques on a large scale and scientists involved in research associated with intensive and semi-intensive culture methods. He wishes members who are willing to have him visit their programs to please write to him: RD 1, Putaruru, New Zealand. He is also building a collection of crayfishes and specimens with fellow members. Dr. Devcich can supply specimens of the two New Zealand species.

R. W. HUTCHINGS announces the formation and development of a newsletter service which provides information on the aquaculture of crayfish. Information may be obtained directly from him at the address given under "new members" in this newsletter.

IAA NEWSLETTER

Correspondence from members, both new and old, has been good; however, there is definite room for improvement. Please send to the Newsletter editor any news of interest to members of the Association. Also I would appreciate receiving business cards, letterheads, and other items which feature crayfish logos and designs. You may note those in this issue and also in ones past.

NEW MEMBERS

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SHORT RESEARCH COMMUNICATIONS

The following two communications were sent by James Avault, Jr.

Rice Hay and Soybean Stubble as Forage for Crawfish, a Preliminary Report

Chris Day and James W. Avault, Jr.
School of Forestry and Wildlive Management
Louisiana State Univeristy

Rice is an excellent forage for crawfish but it runs out before the season is over. Some farmers are trying soybean stubble as forage. At LSU we conducted an experiment in 17 ponds. In some ponds rice was used as a forage and when it ran out no hay was added (limited ponds). In other ponds when rice ran out additional applications of hay were made periodically (unlimited ponds). In still other ponds soybean stubble was limited and unlimited. Finally, in one set of ponds limited soybean forage was flooded late to simulate late harvesting of beans followed by late flooding for crawfish.

Below is summarized the different pond combinations and the pounds of crawfish harvested.

Flooding Date	Pond Disposition	Pounds of crawfish produced per acre
October 10	unlimited rice[1]	3,272
October 10	limited rice[1]	2,753
October 10	unlimited soybean[2]	2,403
October 10	limited soybean[2]	1,364
November 22	limited soybean[2]	1,750

1/Average of four ponds

2/Average of three ponds

The application dates and amount of forage applied to unlimited ponds was:

Application dates of forage	Approximate pounds of forage added/acre	
	Rice hay	Soybean stubble
Jan. 25, 1982	4,000	2,000
Mar. 20, 1982	4,000	2,000
Mar. 31, 1982	4,000	2,000
Apr. 28, 1982	4,000	2,000

Recommendations based on this study are:

1. Rice forage application may be too high because of problems with low dissolved oxygen. It may be best to add 2,500 - 3,000 pounds/acre each time.

2. Depending on water temperature and amount of forage present, the first application of forage (hay or stubble) should be in December.

3. Additional applications should be made every 5 to 6 weeks thereafter.

Artificial Crawfish Bait Research at Louisiana State University, 1981-82, A Preliminary Report

Bill Pollock, James W. Avault, Jr., and Robert P. Romaire
School of Forestry and Wildlife Management
Louisiana State University

In the last two years Louisiana State University has developed and compared a dozen different artificial crawfish baits. An artificial bait consists of three main components. The attractant is the scent that draws the crawfish into the trap. Catfish oil, bloodmeal, and powdered egg are some of the attractants that have been tested at LSU. The attractant is held by the carrier, which usually consists of a blend of animal matter, such as fish meal, and vegetable matter, such as cottonseed meal or rice bran. The binder holds the bait together, allowing it to slowly dissolve in water. Soy flour and wheat flour have proven to be effective binders for crawfish baits.

During the 1981 crawfish season four artificial baits were tested against gizzard shad (Dorosoma cepedianum) in a 5-acre pond. Each bait had the same carrier and binder, but a different attractant. The four baits were as follows: 1) carrier without attractant, 2) carrier with blood meal, 3) carrier with powdered egg, and 4) carrier with catfish oil (Table 1).

The baits were cast into 1 inch x 1/2 inch diameter pellets, which were put into nylon net bags to hold them in the trap.

The bait with the catfish oil proved to be the most effective, catching an average of 2 lb. 09 oz. per trap set, compared to an average catfish of 1 lb. 11 oz. per trap with gizzard shad (Table 2). The bait with the catfish oil also out caught shad in both warm and cold water (temperature range 56° - 82°F). The labor required to stuff and clean the bait bags made this form of bait unsuitable on a commercial scale.

During the 1982 season eight baits were tested against shad. Two basic formulas were used (Table 3). Formula 1 was identical to the bait with catfish oil used in 1981. Each formula was presented in three forms. They were: 1) pelleted into 1/4 inch x 1/2 inch pellets which were again placed into nylon bait bags. 2) stuffed into a 35-mm sheep intestine sausage casing, and 3) formed into a 2 1/2 inch diameter biscuit. All baits were then oven dried to 5-10% moisture content to prevent growth of mold. Cottonseed cake was also tested both plain and soaked overnight in catfish oil.

Field testing of the baits was done in commercial crawfish ponds in both cold and warm water at Henderson, Louisiana. Preliminary analysis of the results show that the most crawfish were caught with the biscuit made from formula 2 and the sausage made from formula 2 (Table 4).

A number of other baits were tested during the season, including many different types of binders, carriers, and attractants. Some of these materials appear promising, such as the use of sugar cane baggasse as a carrier.

Further analysis of the trapping data, and an economic analysis of the baits used in 1982 is planned.

Summary and Conclusions

1. During the last two years, LSU developed and compared over ten different artificial baits.
2. In 1981, four artificial baits with different attractants were tested against gizzard shad.
3. The bait with catfish oil as the attractant was the most effective, catching 2 lb. 09 oz. per trap set, compared to 1 lb. 11 oz. per trap set caught with the gizzard shad.
4. In 1982, eight baits were tested against shad.

5. The most effective baits were a biscuit made from formula 2 and a sausage made from formula 2 (see Table 4). They worked well in cold water.

6. While preliminary results are encouraging, further analysis and research are required.

Table 1. Composition and material's cost of artificial crawfish baits, 1981

Component	Percentage by weight	Cost per Pound	Cost per Ton
Fish Meal (Menhaden)	33	$0.25	$ 500.00
Cottonseed Meal	43	0.12	247.00
Soy Flour	14	0.14	283.40
Attractant	10		
1. Dried Blood Meal		0.32	640.00
2. Catfish Oil		0.14	290.00
3. Powdered Eggs		5.82	11,640.00

[1]Prices as of June 1982

Table 2. Average catch per trap per day by bait, 1981

Bait	Weight/trap
1 – Bait with powdered eggs	2 lb. - 00 oz.
2 – Bait with blood meal	1 lb. – 03 oz.
3 - Bait with catfish oil	2 lb. - 09 oz.
4 - Bait without attractant	2 lb. - 02 oz.
5 - Gizzard shad	1 lb. - 11 oz.

Table 3. Composition and material's cost of artificial crawfish baits, 1982

Ingredient	Formula & Percentage 1	Formula & Percentage 2	Cost per Pound	Cost per Ton
Fish Meal (Menhaden)	33	25	$0.25	$500.00
Cottonseed Meal	43	0	0.12	247.00
Rice Bran	0	20	0.06	120.00
Soy Flour	14	20	0.14	283.40
Wheat Flour	0	20	0.08	170.00
Catfish Oil	10	15	0.14	290.00

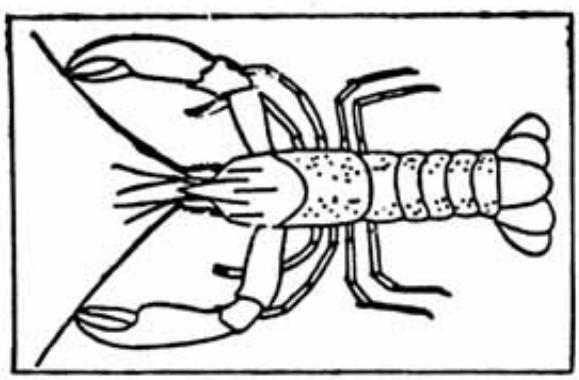
[1]Prices as of June 1982

[2]Percentage of ingredients are by weight

Table 4. Average catch per trap per day by bait, 1982

Bait	Weight/trap in ounces
1. Formula 1, pellet	9.4
2. Formula 1, sausage	11.0
3. Formula 1, biscuit	8.1
4. Formula 2, pellet	8.7
5. Formula 2, sausage	13.1
6. Formula 2, biscuit	13.1
7. Cottonseed cake (plain)	6.8
8. Cottonseed cake (dipped in fish oil)	6.6
9. Gizzard Shad	9.3

The annual meeting of the American Society of Zoologists in December in Louisville, Kentucky was well-attended. The IAA, through invitation from the ASZ, participated in the program along with four other scientific societies. News regarding future meetings of the ASZ and the Crustacean Society will appear in issues of this Newsletter.



Hutchings
Logo from Freshwater Australian
Crayfish Traders