

DRUM AND CROAKER

VOLUME FIFTY-NINE
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EDITOR
L. C. Finneran

The Aquarium Research Science Endeavor was organized at a meeting in Bloomington, Indiana, on August 25, 1958. This group has as its goal the advancement of aquarium science, the continuation of the Public Aquarium Symposium (now in its sixth year) in conjunction with the American Society of Ichthyologists and Herpetologists and the production of this present journal, DRUM AND CROAKER, as an information organ for public Aquarists. The DRUM AND CROAKER, has been fostered and perpetuated by such fine old aquarium names as:

James Atz
William Braker
Christopher Coates
Earl Herald
Sam Hinton
Murray Newman
William Kelley
Craig Phillips
F. G. Wood, Jr.

THE NEXT EDITORS OF THIS JOURNAL

Craig Phillips
National Aquarium
Commerce Bldg.
Washington 25, D. C.

James Atz
New York Aquarium
Coney Island
Brooklyn 24, N. Y.

Ed. Note: The present editor takes particular delight in noting that it will take two good men to replace him.

The sixth annual AQUARIUM SYMPOSIUM will take place in conjunction with meetings of The American Society of Ichthyologists and Herpetologists in Chicago, Illinois, June 1960.

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AQUARIUMS COMMITTEE REPORT
AIPE (American Inst. Park Executives) - 1958

Keith K. Kreag
Detroit Zoological Park
Royal Oak, Michigan

Aquariums established in recent years have demonstrated that they are one of the few types of natural history displays capable of paying their own way – even of being commercially profitable. The public interest that makes them so fortunate will probably cause many new aquariums to appear in the near future.

Aquariums fall into three general categories:

1. The private enterprise
2. The independent public aquarium
3. The public aquarium that is an integral part of a zoo.

Perhaps we might include a fourth type that is zoo-operated but located separately from the zoo grounds. However, for the present consideration this type may be included under group two. At the present time, representatives from the zoo-located aquarium predominate in AAZPA.

This situation brings up a number of questions:

1. Does AAZPA wish to expand its aquarium activities?
2. If so, what type of an aquarium program does it wish to offer?
3. Does the Organization wish to develop an operational or scientific program for aquarium men?
4. Does it wish to limit its activities to administrative problems?

Nothing valuable can come of committee work beyond surveys unless these questions are answered.

The Aquariums section of AAZPA does not as well represent American Aquariums as it does American Zoos. There are some evident reasons for this which I shall list below:

1. Zoo directors and aquarium operators have different problems and interests.
2. The AAZPA programs, as presently set up, cannot satisfy the aquarium man without dissatisfying the zoo man because there is not time for properly covering both fields of interest.
3. If enough aquariums were represented in the Association it would be feasible to set up a special program for them. There are a number of such special interest sections to the AIPE program.

1. There is an economic snag to the development of the aquarium program in AAZPA. Most cities will not send more than one or two men from a department to a convention. Usually the curators of aquariums, birds, reptiles, mammals, health, education, etc. are not able to attend. This leaves only the directors of aquariums not connected with a zoo or park department free to attend AAZPA meetings with any regularity.
2. Aquarium men are more likely to be able to get together at meetings other than AAZPA, than they are at AIPE conventions because meetings for specialists are not of direct importance to the zoo or park director.
3. Are there ways to solve these problems within AAZPA?

Certain answers have been suggested to some of these problems.

If the AIPE (as the name implies) is concerned primarily with the executive problems of park, recreation, zoo and aquarium operation, perhaps we should encourage those persons interested in the scientific and operational phase of aquariums to work with the organizations specifically set up for people interested in this phase of the program. I refer to Ichs & Herps, American Fisheries Society, etc. These organizations might well appreciate our recognition of their importance to certain phases of our work and we could certainly benefit from early acquaintance with the progress they are making.

Cooperation might be developed by inviting a representative from their meetings to present the highlights of those parts of their program that might be useful to aquarium or zoo operators.

While communication between directors of various institutions is very valuable, it is also important that the scientific staff of these organizations communicate also. Nothing is more valuable in keeping institutions from stagnating and individuals from becoming complacent than seeing what the other fellow is doing. We all should strive constantly for more comprehensive and better presentation of our exhibits to the public.

AAZPA can promote aquariums and improve their aquarium program by holding an aquarium workshop, similar to recent ones held on zoos and outdoor recreation, with the objective of bringing together the problems and progress in American aquariums. (All aquariums should be represented whether they have members in AAZPA or not in order to properly cover the field and to bring the group together under AAZPA with the hope of broadening our membership in the future.) A publication showing the problems and virtues of various types of aquariums would be invaluable to groups planning new aquariums or for those rehabilitating old ones.

Summary :

If the active participation of all aquarium management is desired in AAZPA, the organization will have to solve some of the above problems. There can be no strong aquarium section without the inclusion of the commercial exhibition aquarium, because the problems of exhibition and operation of all three groups are necessarily quite similar and there are not sufficient numbers in any one of the above groups to work without the other.

NEW AQUARIUM - MEMPHIS, TENNESSEE

Raymond F. Gray
Memphis Zoological Garden and Aquarium
Memphis, Tennessee

In the early part of 1956, the citizens of Memphis were pleasantly surprised. As the result of a suggestion printed in the local newspaper Sunday feature column "Your Zoo," an anonymous person offered to donate an aquarium building. Study of aquarium operations was immediately begun by members of the zoo staff. Many aquariums were visited and a report of this study was made to the prospective donor. Nothing further was heard regarding the matter until December 1957, when the donor, through his trustees, officially submitted his proposal to the City of Memphis. Terms of the proposal were as follows: \$100,000.00 (if needed) outright gift for the construction of an aquarium; admission fees of \$.25 for adults, \$.10 for children over six; gross receipts to go into an animal fund for the sole purpose of purchasing animals for our collection. The building, to be constructed within the boundaries of the zoo, would be under the supervision of the zoo director. Trustees of the donor would be in power for twenty-five years; however, their only duties would be to see that the terms of the contract were adhered to unless otherwise agreed upon by them. Needless to say, the proposal was accepted by the City of Memphis and the Memphis Park Commission. Another anonymous person paid the architect's fee and plans for the building were carefully drawn.

It should be noted that no fee is charged for admission to Memphis Zoological Garden.

The overall size of the building is 101 feet long by 70 feet deep. It is designed entirely for a fresh-water operation with the possibility of a very small salt water exhibit being added at a later date. Ours is a closed system – each tank individually filtered. The display tanks are : 1 concrete tank 3600-gallon capacity, 2 concrete tanks 1700-gallon capacity each, 6 industrial masonite tanks 600-gallon capacity each, 4 industrial masonite tanks 500-gallon capacity each, 32 tropical tanks 25-gallon capacity each, 4 special exhibit tanks 20-gallon capacity each,

1 lobby tank 65-gallon capacity. One of the 600-gallon capacity and one of the 500-gallon capacity tanks are refrigerated. Reserve tanks - 16 industrial masonite 300-gallon capacity each, 2 industrial masonite 600-gallon capacity each. Water storage – 2 concrete tanks 3600-gallon capacity each.

The building is heated by gas and cooled by air-conditioning. The water supply is from Memphis water system. It is considered one of the best in the country and is pumped from deep wells located throughout the city.

We are pleased to state that the exterior of the building as well as the interior gives the picture of serene beauty.

We wish to announce that Ronald S. Graves, formerly Curator of Reptiles, has now been appointed Curator of Reptiles and Fishes. This young man has been untiring in his research studies of all phases of this operation and much credit should be given him for what we think will soon be one of our outstanding exhibits.

Ed. Note: Ray reports that it will be early fall before they will be able to open.

NOTES ON ARAPAIMA

William Kelley
Cleveland Aquarium
Cleveland, Ohio

In July and August of 1958, we received three specimens of Arapaima gigas, each arriving about two weeks apart from Ross Socoloff.

The first one which was about five inches long, was put on display in a 45-gallon aquarium at 76° F with aeration and filtration. It didn't eat for two days and swam listlessly against corner of aquarium. On the third day, it began eating small goldfish, but continued swimming against corner when not feeding --- Died after three weeks approximately.

The second specimen, six inches long, was put in 30-gallon reserve at 74° F. It ate only live fish starting on first day but engaged in same dull swimming pattern against a tank corner as the first. Donated to Detroit Aquarium on August 22nd --- Died on August 29th before Detroit picked him up.

The third fish, about seven inches long, was placed in a 160-gallon exhibition tank with a 16 inch arowana, Osteoglossum bicirrhosum, after exhibiting the same swimming pattern in reserve. We hoped he would follow the arowana around instead of putting his snout in a corner and swimming stupidly against it. We still have him --- still with his buddy --- now in a 1300-gallon tank at 75° F. The arowana is now 20 inches and the arapaima is 24 inches. They are fed whole, drawn smelt daily and about three dozen small goldfish one day each week.

The arapaima has now assumed the dominant role, makes excursions about the tank by himself, and is an active swimmer. He leaps occasionally and mildly harasses the arowana --- just butts him gently once in awhile. He yawns prodigiously frequently, especially after feeding, is very tame and waits at rear of tank when he hears someone behind it. A few rich, pink markings (spots) have appeared posteriorly. All specimens were uniformly dark in coloring when received. Prices ranges from \$2.50 to \$5.00 each.

NOTES ON ARAPAIMA

Lawrence Curtis
Forth Worth Zoo and Aquarium
Fort Worth, Texas

Our experiences have been very disappointing. We received four small ones (3-5") in poor condition which lived less than two weeks in spite of being in a 180 gallon tank. One only fed on small beef heart strips and guppies.

We received two large arapaimas (18" and 24"). The 18" specimen never ate and died after one week in a 400 gallon tank. The 24" one ate very well (beef heart strips and goldfish) in a long narrow tank of 70 gallon capacity, but died a week after being moved to a 400 gallon tank.

We could find no parasites and the little amount of fungus present on the larger one could not have caused death. The fish would occasionally swim against the side of the tank, not too forcefully, but seemingly as if they could not alter their direction. I believe this might be a clue - i.e., that they must develop a circular swim pattern. Bill Kelley and I discussed this and he suggested placing the fish with a specimen already adjusted to a tank, e.g., an arowana. Should we get additional arapaima, we shall try to develop this type of swim pattern.

NOTES ON ARAPAIMAS

William Braker
Shedd Aquarium
Chicago, Illinois

Besides following the usual procedures of good aquarium management, I think the following have helped to establish our Arapaimas:

1. Live food from the very beginning of residence here.
2. Giving them as large a tank as possible to encourage growth.
3. Plenty of TLC and special attention which you can afford to give to one, large, valuable animal.

Once they are established, it is almost impossible to kill them off. Here is a record of growth of our specimens (during my tenure):

#1 - May 4, 1954	8"
Jan 23, 1957	45"
Aug 27, 1958	61"
Feb 27, 1959	64"
#2 - Sept. 17, 1957	13" - died next day
#3 - Sept. 17, 1957	15"
Feb 21, 1958	24"
Apr 4, 1959	38"
#4 - Nov 6, 1958	19"
Feb 26, 1959	26"
Apr 1, 1959	33"
#5 - Nov 6, 1958	22"
Feb 26, 1959	29"
Apr 1, 1959	36"

These figures are by no means accurate to 1/64", but I would say give or take an inch. You can see that the more recently acquired specimens show a faster rate of growth, which may or may not indicate that we have learned something about keeping them.

NEW YORK AQUARIUM ANNUAL REPORT '55

"Two small Pirarucas, Arapaima gigas, were obtained through Paramount Aquarium, Inc., but unfortunately these did not long survive."

ARAPAIMA ANTICS AT BELLE ISLE

L. Finneran

The Detroit Aquarium received two arapaima from Tarpon Springs Zoo. We used Kelley's companion method for introducing and conditioning the new arrivals. Not wanting to put our roe in one receptacle, we placed the thirty-four inch specimen in a 650 gal. tank with a thirty-six inch Osteoglossum. The smaller individual measuring twenty-eight inches was introduced to a 564 gal. tank inhabited by a twenty-four inch short-nosed gar. Both arapaima did well, followed their companions, and began to feed. We established a limit of twelve, two-to-three inch goldfish per day for each.

After several days of observation, we transferred both to a large display tank measuring 12'x4'x4'. It seemed to work well. Both fish continued to feed and the smaller followed the other about the tank.

In feeding, we found that we had to snap the back of the goldfish and drop it in front of the arapaima. Both conditioned immediately to this feeding procedure and would rarely take the goldfish another way. If the goldfish was not immediately eaten, the arapaima would follow it to the bottom and pull it in with an audible snap. One rather interesting observation was made on one occasion. The larger arapaima was following its received goldfish to the bottom when the food fish evidently became lost in the lush aquatic vegetation for which this Aquarium is justly famous. The arapaima did not stop but continued to drop. At the bottom, it picked up the only goldfish-colored (?) stone in the vicinity. This was immediately discarded.

Incidentally, we have the impression that arapaima are bottom stalkers. We feel that they probably operate best by moving along with their chin on the bottom and their body and tail carried high. When moving in this position, the flash marks on the posterior and the drab forward region would be an aid in confusing the intended prey.

The smaller arapaima died first and after a period of time the other fish followed suit. Upon checking, we found that the smaller fish had been disgorging most of its swallowed goldfish at night and that the larger fish had been seen to eat them. Our observer seemed to feel that there was some sort of behavioral sequence between the two fish which caused the disgorging pattern. Be that as it may, experience at the Detroit Aquarium would seem to indicate that arapaima may be prodigious feeders.

2001 Editor's Note: You might have guessed that page "6plus1" is page 7. There were no pages 8 or 9 in this copy. It is possible that these pages were never added to the original. This is after all an "irregular" journal <grin>. PJM 11/4/01

AQUARIUM SIGNS

George Spelvin
Toulemonde Aquarium

No one seems to agree on the subject of proper labels for a public aquarium. Some of the worst presentations are copied and some of the best go without notice. The public aquarist may ignore his signs but the public will not. Signs that are looked at when over the aquarium animal is worth while. Every display animal arouses some question in the viewer.

To argue that the public does not look at signs is to confess that the display is not interesting. There are far too many fascinating aspects of any living thing for this to be so. These interesting presentations can be made and brought out on aquarium signs.

There appear to be three kinds of printed public aquarium labels:

1. Passerby
2. Culturebug
3. Choker

All three types have their place in the presentation of animal exhibits. The PASSERBY sign is a boldface general title that attempts to catch the viewer and give him a general idea of what is in the area. A public aquarium would give the label "NATIVE FISHES" as an example of the passerby type. The CULTUREBUG sign gives a long laborious detailing of information. The reader digs what he wants out of the context. The label writer also has dug and dug for the information that goes into making each one of this kind. Some people refer to this style as cafeteria because the reader looks over the whole selection and then takes what information he desires. Any sign that gives name, scientific name, distribution, habitat, diet, breeding, longevity, behavior, etc., etc., etc., etc., is culturebugged. The third sign is the choker, CHOKER that is, variety. Every public aquarist is ethically required to jam information down the viewing public's throat. The short packed sign is the way. An example of this kind of sign is "WORLD'S SMALLEST LIVE-BEARING FISH."

Ed. Note: I've spent some time in crusading for Mr. Spelvin's theories of exhibit presentation. An almost convert has been Sam Hinton of the La Jolla Aquarium. Excerpts from a letter of Mr. Hinton dated 9/8/58 follows:

Deeply disturbed at the thought that you might still be worried for fear our aquarium labels are so highly-wrought as to detract from the fishes, I am sending you a sample label so that you may set your mind at ease. As you will notice, simplicity and legibility are the keynotes throughout, and the format is kept simple enough to allow me to dash a label off in just a few week's time.

I am aware that some perfectionists might carp at some of the technical aspects of this label : for example, the text is set as a single stanza of the Chant Royal variation of the Ballade, although to qualify as a Chant Royal, a poem must, as you are no doubt aware, have at least three stanzas and an envoi. There are reasons, however, for the use of this verse form, the most important being that it is the only eleven-line stanza I know, and there are eleven letters in "SPOTTED BASS." I did toy with the idea of making it "spotted SEAbass," so as to give the requisite fourteen initial letters for an acrostic sonnet, but eventually rejected the idea of thus tampering with an accepted vernacular name. Also, the dignified metre of the Chant Royal, without any of the "tum-tiddledy-tum" qualities of other verse forms, seems ideal for this dignified fish species. This is a matter on which I have done a great deal of study and am at present preparing a paper on the proper choice of metre for a particular fish; the paper will, of course, be called "One Man's Metre's Another Man's Poison."

Please remember that this label represents only the primary stage. It must next be photographed and printed on three-by-five foot color film, and the transparency mounted in front of a light frame with red, green and yellow lights flashing alternately in stately sequence. The effect of such labels upon the public may be gauged by the remark of an elderly lady as she emerged from the aquarium corridor: her voice shook as she wiped her eyes and said brokenly "I have never seen anything like THAT before!" And I am sure it was the labels she meant, as there were no fish in the tanks at that time.....

Paralabrax maculatofasciatus

MEANS BY ENGLISH "LIKE UNTO THE VORACIOUS BASS OF
PE, WITH SPOTS IN BANDS ARRANGED.



MCXLVIII

ΣΠΘ†⋈

GT3413-D



(FOR KEY TO SYMBOLS-SEE THE
AQUARIUM GUIDE [To be published in 1968 ((approximately [[we hope.]])])])

San Pedro, south as far as Mazatlan,
Preferring salt lagoons and quiet bays -
Oh Spotted Bass, thou art a friend to man!
Thy pelvic fin has one spine and five rays,
His longest dorsal spine is number three.
Eldritch, ghostly, swim'st thou through the sea
Dimly perceived, drifting off like Finneran.
Beauteous fish, each race art thou the winner in,
And best of all, thy flesh is never crass.
So that is why the angler casts his spinner in -
So that is why we bless thee, Spotted Bass!

COLLABORATION

Public aquariums remain much in the public eye; many cities all over the world have either recently built or are planning to build aquariums. Our advice on the construction and maintenance of the great majority of these institutions has been sought at one time or another.(1) An aquarium is a one-in-lifetime building for the contractors, who meet situations and problems not even imagined in the erection of any ordinary structure. (2)

Much of the altruism and cooperativeness that exists among scientific and educational institutions has a sound practical basis. In fields where many things and services cannot be priced, reciprocity naturally assumes great importance. We therefore find that the bulk of our relationships with other institutions and their associated personnel consists of doing and asking favors.

We have always extended ourselves in our efforts to help those who are planning to build public aquariums and water systems to maintain aquatic animals in captivity, for, since only people like ourselves can provide the necessary know-how in so highly specialized a field, there are times when we have no choice but to appeal to a sister institution for aid. (3)

These words are echoed by all public aquarium executives. We have much to do and cooperation seems to be the method of achievement.

PROCURING LIVING AQUATIC ANIMALS is an endeavor of prime importance to all of us. We all have certain animals that we can routinely obtain. It would then seem that some sort of clearing house is needed to facilitate exchanging and gifting. William Kelley, Director, Cleveland Aquarium, has been very interested in this common aspect of our work. Why not get in touch with Bill in regards you availables and desires.

COMMON NAMES used in public aquariums should really be made uniform. A step in this direction could very well be made if we were all resolved to use the second edition of THE AMERICAN FISHERIES SOCIETY's list of common names of fishes in the U.S. and Canada. This should be available at the end of 1959. Let's not carp about the facts that they saw fit to consult public aquarists on label usage.

Another step can very well be taken if all will send a list of now used and therefore preferred common names of EXOTIC fishes recently displayed. Sam Hinton, Aquarist-Director, Aquarium-Museum, La Jolla, California, may be able to come up with a recommended list of common names for public aquarium fishes.

THE PUBLIC AQUARIUM MANUAL reported on at the 1959 Aquarium Symposium and sponsored by the American Institute of Park Executives is of importance to all.

(1) cribbed from Annual Report 1954 New York Aquarium

(2) taken from Annual Report 1955 New York Aquarium

(3) lit. cited Annual Report 1956 New York Aquarium

The February '59 meeting at Michigan State University has resulted in a fine working outline. Lawrence Curtis, Curator, Fort Worth Zoo and Aquarium, Fort Worth, Texas, is riding shotgun on the project as Chairman, Education Committee on Aquarium Project. He reports that the project has begun to bog a bit. Will all you people with present assignments catch up with Curtis? Public aquarists not familiar with the project should get in touch with the Chairman.

CLIPPING SERVICE is slowing down. Some time ago, we mutually agreed to cut local newspaper stories on out-of-town public aquariums and send them back to source. Man your scissors, Men!

NOTE NOTES

Ken Norris (who should be congratulated since he now has acquired a new-fangled Ph.D) and his cohorts, Frank Brocato an "Boots" Calendrino, descended upon the Hawaiian Islands with their newly constructed fish transport mechanism. This piece of apparatus is so mechanical that all you have to do is push a button and any desired temperature of water and aeration is developed in the 2500 gallon holding tank. After more than a week in Hawaii, they reduced the Hawaiian fish fauna to practically nothing, all of the poor downtrodden fish having been crowded into this transport monstrosity. Actually though, the device is quite good and promises to revolutionize some of the current thinking on methods of large fish transport.

Earl Herald was in the Islands at the same time, being fouled up with a couple of television programs and when he attempted to get some fishes to bring back to San Francisco he discovered the fantastic dent that the Marineland collectors had made on the local fauna.

Experts report that the population density should be back to normal within 15 years.

"IT'S DR. ATZ NOW"

The above sensational OOP article from Animal Kingdom has been privately printed. Colleagues desiring a reprint may have same by addressing a typewritten request countersigned by department head to:

Dr. James Atz
New York Aquarium
Coney Island
Brooklyn 24, New York

To: Oceanarium, Inc.
Marineland, California

From: Marine Studios, Inc.
Marineland, Florida

Bill for expenses in connection with capturing, holding and transporting six porpoises namely : Dopey, Dummy, Egghead, Four Square, Crazy Baby and Mony (Named after MOTP General Manager).

Capture of Animals:

Preliminary discussion with MS General Manager 1 hour	50.00
Discussion with personnel involved - 70 men, 2 hours each	420.00
Bar bill for same	185.00
Departure party for expedition personnel and wives	345.98
Camouflage for boat (to fool porpoises)	275.65
Fuel for boat	1.08
Use of Florida Inland Waterway (only charged Californians)	675.00
Opening and closing draw bridges " " "	110.00
Porpoise net lost overboard after above party	778.00
Personnel retained while making net, 6 weeks - 22 men	13,200.00
Telephone call to GM saying net was ready	.10
Tug to pull boat off sand bank, while captain was reading chart upside-down, made right turn instead of left	100.00
Champagne to celebrate arrival at fishing grounds	50.00
1 box aspirin	.15
Spotting plane - Boeing 707 Jet - 5 days	5,000.00
Postage on letter from plane to boat crew advising them where porpoises were	.04
Use of binoculars on boat (reduced charge for using only one eye)	.22
Fee for announcer to shout (Porpoises ahoy!)"	2.00
Two specially designed rowboats for catching porpoises	500.00
Use of outboards	NC
Fuel for outboards	.30
Oars broken hitting top of water to scare porpoises - 37	107.00
Credit on one broken oar used as splint on First Mate's leg	(.67)
Deluxe hospital suite for First Mate - 1 month	620.00
Other medical expense in connection with same (misc.)	2,500.00
Fee for wife of First Mate - loss of social privileges, what a man the mate is.	3,000.00
Groceries	750.00
Entertainment	1,250.75
Catching porpoises - 2 men, 1 hour each - 8 porpoises caught	<u>6.00</u>

Holding Animals:

Fresh caviar flown from Russia daily (4 months supply)	12,000.00
Porpoise baby sitters	4,000.00
Use of water in flume	NC
Loss by evaporation of water in small holding tank	

6,000 gals (US Bureau of Standards estimate) 1.00 gal.	6,000.00
Electricity for observing porpoises at night	.77
<u>Expenses in Connection with Personnel from MOTP :</u>	
Suite at Ponce de Leon Hotel - Sir David Brown	500.00
“ “ “ “ “ “ Count Frank Brocato	500.00
Continuous entertainment 24 hours per day - 5 days	3,000.00
Girls, amusement taxes, etc., all included	
Professional instruction in aquarium exhibition techniques and collecting procedures	NC
2 pair dark glasses to eliminate blinding Florida sunshine after leaving foggy California	30.00
Answering Monahan's call by GM of MS 3 minutes (flat fee)	250.00
Accounting Services	1,000.00
Interest on money spent 12%	6,000.00
Paper bill is written on	.02 1/2
Use of carbon paper	.03 1/4
Wear and tear on typewriter	.21 1/4
Loss in attendance in 1958	NC
Embarrassment in almost being thrown out of Commodore Bar because of actions of one consulting engineer to MOTP	500.00
6 Beauty rest mattresses - 800 coils each	800.00
6 Specially designed porpoise swimming pools - by Esther Williams	1,200.00
Greyhound busses to transport porpoises - with restrooms	750.00
Maalox for Woody's ulcer - non-constipating type	1.50
Miltown for GM	5.00
One golf ball - lost on #9 when thinking of problems involved instead of concentrating on game	1.25
Discount on ball for having been used	.01
Loss of income - Sir David and Count Frank stood at main entrance directing every potential customer to MOTP	<u>88.00</u>
Total - More or less as follows	\$66,654.80
50% discount allowed for payment upon receipt. 1% after 24 hours. Will trade for two whales if necessary.	
REVIEW:	

SEA OF CORTEZ. By John Steinbeck and Edward F. Ricketts. The Viking Press, New York, 1941. Oop. This recently published book is a fine writing and really ought to be on the shelves of all aquatic biologists. The speculations on drinking, scientific writing and biologists are alone worth a price. Especially interesting are Steinbeck's comments on sustained activity in ones chosen field:

It is very easy to grow tired at collecting; the period of a low tide is about all men can endure. At first the rocks are bright and every moving animal makes his mark on the attention. The picture is wide and colored and beautiful. But after an hour and a half the attention centers weary, the color fades, and the field is likely to narrow to an individual animal. Here one may observe his own world narrowed down until interest and, with it, observation, flicker and go out. And what if with age this weariness becomes permanent and observation dim out and not recover? Can this be what happens to so many men of science? Enthusiasm, interest, sharpness, dulled with a weariness until finally they retire into easy didacticism? With this weariness, this stultification of attention centers, perhaps there comes the pained and sad memory of what the old excitement was like, and regret might turn of envy of the men who still have it. Then out of the shell of didacticism, such a used-up man might attack the unwearied, and he would have in his hands proper weapons of attack. It does seem certain that to a wearied man an error in a mass of correct data wipes out all the correctness and is a focus for attack; whereas the unwearied man, in his energy and receptivity, might consider the little dross of error a by-product of his effort. These two may balance and produce a purer thing than either in the end. These two may be the stresses which hold up the structure, but it is a sad thing to see the interest in interested men thin out and weaken and die. We have known so many professors who once carried their listeners high on their single enthusiasm, and have seen these same men finally settle back comfortably into lectures prepared years before and never vary them again. Perhaps this is the same narrowing we observe in relation to ourselves and the tide pool - a man looking at reality brings his own limitations to the world. If he has strength and energy of mind the tide pool stretches both ways, digs back to electrons and leaps space into the universe and fights out of the moment into non-conceptual time.

The close proximity of the Miami Seaquarium to the City of Miami Sewage Treatment Plant (they are located on opposite sides of the Rickenbacker Causeway, which separates the two entrance roads) has occasionally proven to be a source of confusion to visitors, who sometimes mistake one for the other. With the idea in mind that expectant sightseers who arrive at the Sewage plant not be turned away disappointed, the following letter was sent to that institution sometime in 1958:

Mr. Clarence Henry
Head Water Chemist
City of Miami Sewage Treatment Plant
Rickenbacker Causeway
Miami, Florida

Dear Sir:

Having recently completed an unofficial survey of the City of Miami Sewage Treatment Plant, and having taken note of its hereto-fore unexploited educational and recreational facilities, I feel that such possibilities should not be literally and figuratively allowed to go down the drain. Furthermore, there is no reason why the Miami Seaquarium should hog all the credit (and likewise the revenue) as the only public showplace on the Rickenbacker Causeway. The Seaquarium must go to considerable effort and expense to maintain its exhibit, while the Sewage Plant receive its principal ingredients by more natural means. As Homer* once philosophized: "Civilizations may rise and fall, but sewage flows on eternally."

First, a catch name is needed. "Flushing Meadows" is apt, but preoccupied, I fear, by someplace near the New York seat of the United Nations privy council. "Sewerama" has the advantage of being more up-to-date, in fact, the title alone should suffice to draw the general public in like flies, if you will pardon the comparison.

The grandiose spectacle of turbulent waters, humming chlorinators and air compressors, tumbling flotsam and grease balls, pulsating underground machinery, and gently wafting effluvia should provide a repertoire of unending delight to those who have never beheld a sewage plant going full tilt. Besides offering the public guided tours, the Sewerama could set up a public address system over which could be played selections of appropriate mood and chamber music, such as "Come, Josephine, in my flying latrine," "The slurry with the tinge on top," and "You get no foam with one grease ball."

For those occasional persons who might have the misfortune to tumble headlong into one of the spillways while becoming absorbed in the passing parade, it might be of psychological merit to point out that, after all, mortification of the flesh is widely held to be a prerequisite to purification of the spirit. Interesting possibilities, such as the formation of a fraternity of the "washed" as opposed to the "unwashed," and the possibilities of mass immersion on festive occasions spring readily to mind.

As a final thought, it might not be out of place to impress the visitor with the trials, tribulations, and responsibilities of the water chemist, who, like the shepherd of old, must watch over his flocks by night.

Respectfully yours,
CRAIG PHILLIPS,
Curator,
Miami Seaquarium

*Homer Bradshaw (1886-) Janitor of the men's room of the Columbus Ohio bus station. Something of a wit, ("His face was flushed, but his shoulders saved him") and noted for his homey philosophies and great zeal in his job. Three-time winner of the golden bucket. Also something of a literary critique, claimed he'd erased more poetry than Byron ever wrote.

AQUARIUM SYMPOSIUM

SCRIPPS INSTITUTION OF OCEANOGRAPHY

7:30 PM Thursday evening, June 18, 1959

86 persons present

PRESIDING: Sam Hinton

1. Observations on the behavior of captive Pacific pilot whales.
David Brown, Marineland of the Pacific, California
2. Growth records of certain marine animals in captivity.
F. G. Wood, Jr., Marineland, Florida
3. Maintenance of sharks in captivity.
Eugene Clark, Cape Haze Marine Laboratory, Placida, Florida
4. The relative ability of various species to survive under aquarium conditions.
Murray Newman, Vancouver Public Aquarium, Stanley Park, Vancouver, B. C.
5. Problems in redesigning a multisystem aquarium within an existing structure.
Earl S. Herald and Robert Dempster, Steinhart Aquarium, California Academy of Sciences, Golden Gate Park, San Francisco, California
6. The National Aquarium.
Craig Phillips, U.S. Fish and Wildlife Service, Washington, D.C.
7. Optical Properties of Aquarium and their applications to lighting and design.
William Kelley, Cleveland Public Aquarium, Cleveland, Ohio
8. Candiru (Parasitic Pygidiid) feeding on gills of living gold fish (8mm color film).
Daniel Loreno, Cleveland Aquarium, Cleveland, Ohio
9. Public Aquarium workshop report, a project of the American Association Zoological Parks and Aquaria.
William Kelley, Cleveland Public Aquarium, Cleveland, Ohio
10. Tour of Wayland Vaughn Aquarium.