OTTAWA VALLEY AQUARIUM SOCIETY
[redacted], OTTAWA 3,
ONTARIO, CANADA


# OVAS NEWS

OFFICIAL PUBLICATION

OF THE

## OTTAWA VALLEY AQUARIUM SOCIETY

NOVEMBER 1958 OTTAWA, CANADA. VOL 4 No.10

# THE OTTAWA VALLEY AQUARIUM SOCIETY

## MEETINGS

JUNIOR SOCIETY
Thursday, November 13th .... 7.00 PM
Thursday, December 4th .... 7.00 PM

SENIOR SOCIETY
Thursday, November 20th .... 8.00 PM
Thursday, December 11th .... 8.00 PM

Regular meetings are held in the Medical Building, University of Ottawa, Room 237, Nicholas and Somerset Streets, Ottawa.

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NOTE: Does your contribution to the OVAS News appear here?
(Our advertisers help to produce this magazine - let us show our appreciation)

## THE OTTAWA VALLEY AQUARIUM SOCIETY

The Ottawa Valley Aquarium Society was founded on the eleventh day of March, nineteen hundred and fifty-four.

The object of this Society is to further the study of aquarium life, the spreading of information regarding it, and the promotion of good fellowship among fanciers of aquarium life.

The Ottawa Valley Aquarium Society consists of two bodies, a Senior and a Junior Society, each operating independently. The Junior Society was founded on the fourteenth day of April, nineteen hundred and fifty-five.

Membership is open to all persons wishing to acquaint themselves with this hobby. Each person may attend two meetings and on the third meeting, application for membership, accompanied by the membership fee, shall be made to the Membership Committee.

The Ottawa Valley Aquarium Society publication "THE OVAS NEWS" is published by the Society, a non-profit hobby organization, and copies made available to all members. Subscription rate for non-members is $2.00 per year.

The opinions, statements, and view points expressed in THE OVAS NEWS are those of the authors and not the Society.

Advertising rates on request from Editor.



This Society is a member of The International Federation of Aquarium Societies (TIFAS).



## THE OTTAWA VALLEY AQUARIUM SOCIETY
### OFFICERS AND DIRECTORS

**Senior Society Officers**

President: Mr Harvey Wittenberg
Vice-Pres: Mrs Clare Kroeger
Secretary: Mrs Barbara Johnson
Treasurer: Mr Dan Jeffrey

**Senior Society Directors**

Finance: Mr Phil Curry
Membership: Mr Ralph Jackson
Programme: Mr Roger Trottier
Show: Mr Geo Bowie
Magazine: Mr Harvey Wittenberg
Junior Soc:

**Senior Society Librarian**

Mr Gordon Croll

**Junior Society Officers**

President: Gary Zumar
Vice-Pres: Pierre Gagnon
Secretary: Patsy Fitzgerald
Treasurer: Fred Gault

**Junior Society Directors**

Finance: John Auer
Membership: Andrew Carson
Programme: Chipper Vickers
Show: Richard Brown
Magazine: Joe Marshall

**Junior Society Librarians**

Joe Marshall
Larry Neumann

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**OTTAWA VALLEY AQUARIUM SOCIETY CONSULTANTS**

Area No 1 Mr Edgar Parisien
Area No 2 Mr Geo Bowie
Area No 3 Mr Ken Craig
Area No 4 Mr Jack Dirks

**TIFAS REPRESENTATIVE**

Mr Edgar Parisien

D E C E M B E R

M E E T I N G

(Senior Society)

WE ARE PLANNING ON HAVING AN OUTSTANDING ITCHYOLOGIST AS SPEAKER. HIS SUBJECT WILL BE OF INTEREST FOR ONE AND ALL.

WATCH FOR YOUR NOTICE.

## NOMINATION AND ELECTION OF OFFICERS
### Senior Society

For the first time in five years the Senior Society membership fully approved the choice of members nominated by the Nominating Committee. There being no further nominations our 1959 officers will be:

President
Mrs Clare Kroeger, [redacted], Ottawa 2. Phone [redacted],

Vice-President
Mr Roger Trottier, [redacted]
Ottawa 1. Phone [redacted].

Secretary
Mrs Barbara Johnson, [redacted],
Ottawa 1. Phone [redacted].

Treasurer
Mr Phil Curry, [redacted],
Ottawa 3, Phone [redacted],



THE OVAS ANNUAL RAFFLE WILL COMMENCE

NOVEMBER 20TH

AND WILL END AT OUR REGULAR MEETING

FEBRUARY 26TH

Tickets will be available at the November and December meetings or mailed to your home. You will receive 2 books (Senior members) 1 book (Junior members).

To the member who sells the greatest number of tickets:

$5.00 Junior member
$10.00 Senior member

The prizes this year will consist of

First - $50.00 Bond
Second - $35.00 electrical appliance
Third - $25.00 electric razor
Fourth - $15.00 camera

TO ASSIST MR DAN JEFFREY, CHAIRMAN OF THE RAFFLE COMMITTEE AND THE COMMITTEE MEMBERS, YOU ARE ASKED TO RETURN YOUR TICKETS AND MONEY AS SOON AS POSSIBLE. SEND MONEY AND TICKET STUBS TO:

Mr Dan Jeffrey
[redacted], Apt [redacted],
OTTAWA 4.

Additional tickets may be obtained by calling Mr Dan Jeffrey, [redacted].

HELP YOUR SOCIETY
NOW IS THE TIME
FOR 1959

## IN MY OPINION

by Mr Ed Parisien - OVAS Senior Society

Plants - I am often asked questions concerning plant growth. In my opinion many of our members plant their plants wrong to begin with. We must remember that all plants are not rooted alike. Plants whose leaves come from a common crown such as Sagittaria and Vallisneria should be planted so that the crown is at the ground level and not an inch or even a ¼ inch below, otherwise the leaves or any green which is cut off from any light will loose colour and then rot off.

That is also true of Water Sprite, but the main reason it is hard to grow is because it is so brittle and unless you are very very careful the stems crack, which is the start of the end for them.

Cryptocoryne varieties should be planted with the dark part of the roots above the gravel. They like poor light so plant them in corners where there is the least light. We must also remember not to crush the roots when planting.

Drugs - Dealers will not like me for expressing my opinion concerning the film we saw at our last meeting, but the facts in my experience have proved that the use of anti chlorine tablets and various drugs in preparing a new aquarium is very wrong.

The way they prescribed all that junk in the film may be good for the dealers, but when that new enthusiast finds out how his money was extracted from him and that his fish all died he is likely to go somewhere else next time. So it is not so good for the dealer as he may think. What I rebel against is the fact that many of our tropical fish enthusiasts are lost to our most fascinating hobby for ever because

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of that first experience.

In my opinion, putting drugs in the aquarium is about as sensible as if you took half a dozen aspirin tablets every day, just in case you may have a headache some day.

Ich - In my opinion if ich is not present in the aquarium fish will not suffer from a temperature change of a few degrees or even a slight chill. Most live bearers will develop shimmies after a chill and the fins will become ragged in a few days. The fin trouble is associated with shimmies, much as chaped lips are associated with a common cold in the human. Another thing that I have noticed is that the majority of fish keepers are so afraid of ich that as soon as they see one or two little white spots they think it is ich so they put in a lot of drugs and raise the temperature (usually much too fast) and in a day or two the fish are dead.

Ich spots are about ¼ the size of a grain of fine salt, very shinny and almost beautiful (I should of said ornamental) and too numerous to be counted. In fact in two or three days there are so many that the fish can hardly swim.

There are many remedies for this condition, but most of them will harm the plants and nine out of ten the fish will die after treatment. I have been in the hobby over 20 years and I have not seen ich in my tanks more than two or three times. Most of the ich I have had the pleasure of destroying were on fish that were brought to me for treatment.

The method I use is heat and salt (sea salt). First catch all the fish in the aquarium and put them in gallon jars containing old water. Measure 2 level tea spoons of salt for each ramining gallon of

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water in the aquarium. Disolve the salt in water and mix the solution in the aquarium. Do not put any crystals into the aquarium. Put one spoonful of salt in each jar, add another the second day and again on the third day. Place a thermostat heater in the aquarium and float the jars (with fish). Raise the temperature to 85 (slowly) and keep it at this temperature for five days. Each day syphon some water from the bottom of the jars containing the fish, replace water, and add another spoonful of salt.

After five days syphon two-thirds of the water from the aquarium and replace with old water. Syphon three-quarters of the water from the jars and replace with fresh old water, little by little. Be sure that the temperature and PH are not too much different from that in the aquarium. In other words gradually get them accustomed to fresh water again.

This may seem like a lot of trouble but it really is not as bad as it seems. Good luck.

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## AN EXPERIMENT WITH HORMONES

by Clenton Stewart

Reprinted from Nebrasks Tropical Topics, Nebraska Aquarium Society, Omaha, U.S.A.

To a person who knows nothing of tropical fish, some of the facts concerning sex sound absolutely incredible. As one learns more about fish the weird habits and methods of reproduction are apt to be taken for granted; but one fact that never ceases to amaze, is the ability of certain fish to change sex, and that change is always from female to male.

Everything in Nature has a purpose, and the purpose of this phenomenon must be to

(Cont'd page 9)



aid in the perpetuation of the species. Perhaps the reason that the change doesn't work both ways is that the males, being more aggressive, are more apt to be eaten by something that disagrees with them. Again Nature may have aided and abetted in this situation by making the males more colorful.

Several times it has been brought to my attention that the change in sex is more apt to take place when no males are present. On one occasion, one male and two female mollies had a 15 gallon aquarium all for themselves (such extravagence). Evidently the male mollie couldn't stand such prosperity, and very quietly gave up the ghost. Within two weeks the female mollie called Hortense had to be named Harold.

The change is much more apt to be observed in female bettas kept in individual glass jars. Personally I doubt if bettas are more apt to change sex than swordtails or mollies; it is the isolation that does the trick. Consequently, it occurred to me that the determining factor of a fish's sex must be very delicately balanced and that it shouldn't be too difficult to influence this factor.

Such interference with Nature could serve no purpose with most fishes, but in our friend the betta we find the one exception. Commercially, male bettas sell for nearly twice the price of females, and the average breeder of such fish probably would be glad to be able to rear a preponderance of males.

My first experiment consisted of treatment of adult females. Obtaining a capsule of testosterone (the male hormone), I mixed it with 4 oz of prepared fish food and fed small quantities of this mixture to the bettas. This experiment was nearly a complete failure. Two females out of twelve turned to males and the other ten died. It is interesting that one of the two survivors had just completed spawning. However,

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neither of the new males had the fin development of "natural" males and even if it would be always possible to change them following spawning, it would scarcely be worth while. With baby bettas, results were quite different. As soon as the little fellows were able to eat dry food the hormone was given them once a day for a week. With no exceptions, every one grew up to be a male and it was absolutely impossible to tell which might have been the females had they not been treated.

The hormone used must be of the type taken orally, and remember you are dealing with a dangerous drug. If a little should get in Aunt Sally's soup she might start singing bass and spending her evenings at the pool hall.

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JANUARY FEBRUARY MARCH APRIL MAY JUNE JULY

## THE AQUARIST'S CALENDAR
### "The Aquarium"

NOVEMBER - Your aquariums should be exposed to more daylight (or artificial light) as the power of the sun's rays diminishes. However, if they are placed nearer the daylight, avoid opening windows, as a quick chill will surely result. In fact, opening windows anywhere in the room should be avoided, since the cold air settles in a layer from the floor upward. Considerable heating and time are necessary to return the room to its normal temperatures. By then the damage may be done.

Now is the time to "weed out" your tanks. All yellowish or weak-looking plants should be removed. Summer growth has probably increased the plant population considerably. Many of these new healthy ones should be removed. Most people greatly over-estimate the plant requirements of an aquarium.

November is probably the most difficult month for aquarium fishes. The ones which have been brought in from outdoor pools are still making an adjustment to cramped quarters and less oxygen. Extra aeration is an aid in helping the fishes make the most of their new conditions.

Most of us are reluctant to turn on our heating systems early in this month. As a result the temperature of our homes is likely to fluctuate considerably. The fish will suffer unless heaters are in good condition and in use.

There are numbers of excellent commercial dry foods on the market, but a large percentage of aquarist prefer to mix their own-at least occasionally. It's fun. This is a good time to do it as fresh ingredients are in general supply.

AUGUST SEPTEMBER OCTOBER NOVEMBER DECEMBER

REPORT ON THE NOTHOBRANCHIUS RACHOVI
by Mr Ed Parisien - OVAS Senior Society

The Nothobranchius Rachovi are the little beauties donated to us by Mr Lyle Hayter when he was here to judge our show at the Exhibition.

Well, I was rather proud to be the one chosen to look after these beautiful fish, but now I feel a little bit shy about telling what I did with them.

According to Axelrod they are supposed to die two weeks after spawning. I am telling you this just to ease the pain a little. I didn't ask Lyle what happened to the parent stock or how he handled them.

However, they did spawn at the Ex and again one week after I got them home. They were fed nothing but live daphnia and mosquito larvae, and they seemed quite happy on September 8th.

September 8th was the day I left for a six week trip. I left plenty of daphnia for them and gave my son instructions as how to feed all my fish. The trio of Nothobranchius Rachovi were to get only the best. This they got and there is still some live daphnia in their tank to

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prove it. But, our Northobranchius rachovi died. One died the third week in September and one two weeks later. The male lived until about two months after spawning and from what I can learn from the books they should have only lived two weeks.

I now have two small aquaria which I hope contain some of their eggs. I am keeping my fingers crossed and hoping to be able to give you a better report in a month from now. Maybe our friend Lyle Hayter will write us a letter and tell me if I did something wrong and how he handled the situation.

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She: "Are you doing anything for that cold of yours?"
He: "Well, I sneeze whenever it wants me to."

## PRESIDENT'S LETTER
### Senior Society

If you failed to attend our Hard Times Dance you missed a very good evening of fun. My thanks to the committee and the members who helped to make this dance a success.

Once again we have broken a record and this one is for the number of members joining at a regular meeting. A total of 16 members paid their membership fees at our October meeting, and at our November meeting we added 2 more members, making a total of 118 members in the Senior Society.

As a result of the increase in membership, plans are being made to obtain a larger room for our meetings. I also realize that many of our new members know little of our Society so I have prepared an article for this issue outlining "What you should know about your Society".

For the first time it will not be necessary to hold the election of officers at our December meeting as the membership accepted the slate of members drawn up by our nominating committee. Our new officers will be meeting shortly to appoint the Directors and then the Directors will be making every effort to obtain members for their committees in order that they can start making plans for the year.

If you can possibly help your Society by serving on one of the committees then please offer your help. Obtaining members for the committees is one difficulty that we have had in the five years of our Society, unbelievable, but true. Every committee will require assistance and all that is required is ONE evening each month, in some committees not even this is required. There is no better way to enjoy your

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Society than to take an active part - its not work but an additional evening of fun and enjoyment in the hobby we have chosen.

Let us get together and give our new officers and directors every possible support we can - they can only do so much.

See you at our next meeting, Thursday December 11th.

Harvey J. Wittenberg

Harvey J. Wittenberg

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A Texan GI was playing poker with some English soldiers. He drew four aces.

"One pound," ventured the Englishman at the right.

"Ah don't know how you -all count your money," said the Texan, "but Ah'll raise you a ton."

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HAVE YOU HEARD

THE LATEST?

...we welcome the following members who joined the Junior Society at the October meeting: Larry Forrest; Ron Rosenes; John D'Aoust; Neil Thompson; Gordon Hillman and David Barron...

...the Senior Society welcomes 16 new members who joined the Society at the October meeting: Mr Jean Duguay; Mr and Mrs Don Langlois; Mrs G Gregory; Mr and Mrs R.A. Lewis; Mr Ralph Roose; Miss C.A. Fleming; Mr Gordon Cutler; Major K.I. Jefferson; Dr G.C. Riley; Mr Robert Thomas; Mr and Mrs J.H. Marshall; Mr John Granville and Mr Fred Stewart...

...Weldon Hodges visited the Montreal Pet Show and said #@¢/&'%#...anyway it was not very good...

...Our sick friend Mrs Flo Trottier is now out of hospital and resting at home..

...A note was received Quote To all members of the Society. I thank you for your kind thoughts while I was in the hospital also for the cards and visits which were very much appreciated. Signed Mrs Flo Trottier...Unquote.

...When you couldn't decide whether to attend the Hard Times Dance you just missed the time of your life...Barbara Johnson won first prize for wearing

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the least clothes...a potato sack. Flo Fitzsimmons was my second choice as Annie Oakley (with gun)...Mr Lalonde must really have had some pains the next day...Marcel Leduc and Flo Fitzsimmons were the best in the Hula Hoop Contest...Roger Trottier took the booby prize...

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WHAT YOU SHOULD KNOW ABOUT YOUR SOCIETY
Senior Society Members

Membership Fees - The membership fee for new members (for one year commencing January) is $4.00 married couples, $3.00 single membership. Membership fees are paid to the Treasurer.

Meetings - Our meetings commence at 8.00 PM and adjourn at approximately 10.30 PM. Meetings are always held on the fourth Thursday of each month (except July and August) unless otherwise notified.

Register Book - At each meeting members and guests are asked to sign the register book.

Name Cards - Each member is asked to purchase a name card .15¢. The reason for the name cards is to identify you as a member of the Society and will authorize you to make use of the Library. Any member attending a meeting without his or her name card shall be required to pay a fine of 10¢.

Library - The library is available to members at each regular meeting. Books, magazines, etc, may be taken out but you are asked to sign the library register. Any books of value require a deposit of .25¢. This deposit will be refunded if you return the book in the same condition and at the

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required time. All books taken out of the Library are for a period of one month, i.e., one meeting to the following meeting.

OVAS News - The OVAS News is published each month, except July and August, and mailed to all members free of charge. Every effort should be made by each member to contribute articles. If you have spawned any of your tropical fish, have tried any experiments, etc, we should pass this information on to members through our magazine.

Jar Shows - A jar show is held each month (except December). The fish of the month is published in the OVAS News. Each fish is judged and you receive a number of points for first, second and third. Every member entering the show receives one point. Those members with the greatest number of points receive a prize at the end of the year. In order to participate in the jar show you are required to enter your fish in a square jar, with no plants or gravel.

Swap Sales - Swap sales are held at each meeting. This is an opportunity for you to sell your surplus fish, plants or equipment, or to purchase any of these items. Each article for the swap sale must be clearly marked with the price and name of member. The society deducts 25% and when sufficient money is available a book, aquarium etc, is purchased and those who have participated in the swap sale (purchaser or seller) are eligible for the draw.

Refreshments - Refreshments are served during the intermission at each meeting.

Society Business - The Society business is ONLY discussed at an Executive Officers meeting. (Cont'd page 19)



Suggestions and Comments - The Society officers and Directors welcome your suggestions and comments. A suggestion box is available at each meeting.

Aquarium Shows - A Home Aquarium Show is held each year, commencing in February and ends in June. A tropical fish show is held each year at the Central Canada Exhibition. Trophies are awarded.

Open House - An Open House is held at least once a year to enable you to visit one of the members and see their display of tropical fish.

Raffle - Each year a raffle (open to the public), authorized by the City of Ottawa, is held by the Society in order to raise funds for our Hospital Aquarium Fund, the purchase of literature to further the study of our hobby and to help in the expenses of producing the OVAS News. Each member is asked to help this cause by selling one or two books of tickets.

Hospital Aquarium Fund - This fund allows the Society to place an aquarium, stocked with fish and plants, in the Hospitals, institutions etc. At the present time we have donated aquaria in the Rideau Health and Occupational Center, The Home for the Aged, St Josephs Orphange Home, The Civic Hospital and have made contributions of tropical fish to St John's Ambulance for invalid patients at homes.

Social Activities - During the year an attempt is made to hold social evenings. Our annual social activities consist of a picnic, held in June, and a birthday party in March to celebrate the birthday of the Society.

The International Federation of Aquarium Societies - (Cont'd page 20)

Our Society is a member of TIFAS. This organization provides assistance and guidance to all member societies.

Society Consultants - Society Consultants are ready to assist you in any difficulty with your tropical fish or equipment. Consult the Society Consultant in your area: (for names of consultants see list of officers)

Area No 1
East of Tremblay Road, Rideau Canal and Hull PQ.

Area No 2
From Rideau Canal west to Bronson Ave.

Area No 3
From Bronson Ave West to Churchill Ave.

Area No 4
From Churchill Ave West to Britannia Bay.

Election of Officers - At the November meeting of each year nominations are held for President, Vice-President, Secretary and Treasurer. Those nominated from the floor and by the Membership Committee will stand for election at the December meeting. The four elected officers are responsible for nominating five Directors who serve the Society as Chairman of one of the Committees. The elected officers and appointed Directors hold one meeting each month to discuss the business of the Society.

Committees - In order that our Society is able to function properly we have five committees each headed by a Director:

Programme Committee
Responsible for preparing the programme at each meeting

Show Committee

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REMEMBER our ADVERTISERS

The Show Committee is responsible for our annual show at the Central Canada Ex, placing of aquaria in hospitals, care of hospital aquaria, Home Aquarium Show and the Jar Shows at each meeting.

Magazine Committee
Responsible for the publication of the OVAS News and the Library.

Membership and Publicity Committee
Responsible for the publicity of the Society, the membership, identification cards, register book, membership lists and the mailing of notices to the members.

Junior Society Committee - Responsible for the supervising of the Junior Society

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regular meetings and executive meetings, social functions, and providing assistance when requested.

Social Committee - Responsible for the refreshments at the regular meetings, welcoming new members, the annual picnic and birthday party, receptions, and any other social activities that the Society may wish to hold.

Each Committee requires members. If you are willing to help your Society by serving as a member on one of the above committees phone the committee director and offer your help.

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## A "MAKE IT YOURSELF" FILTER MEDIUM

Fine-meshed nylon stockings make excellent filter-pads when cut to size of filter box and tacked together with a few stiches of nylon thread. Measure the exact inside dimensions of your filter box, then cut out 10 or 12 pieces of discarded nylon stocking about 1/2-inch larger all around. Take a couple of stitches with nylon thread (cotton or silk will do also) so that the layers will hold together without trouble, and lay them in the filter. Sand or charcoal can be placed on top of them, but neither is absolutely necessary.

For convenience in renewals, simply wash them out in warm water and replace. Being impervious to water, will last indefinitely. Increased filtration can be controlled by adding more layers of the nylon to the pad.

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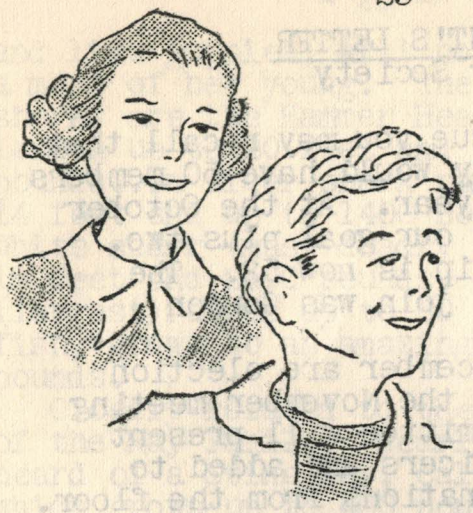
HOW ARE YOUR TICKETS SELLING????????????





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JUNIOR SOCIETY

SECTION

Editor
Joe Marshall

## NOMINATION AND ELECTION OF OFFICERS

At the Junior Society November meeting the following members were nominated and will now stand for election at our December meeting:

| | |
|---|---|
| PRESIDENT: | Ian Woods (Elected) |
| VICE-PRES: | Patsy Fitzgerald<br>Joan Peterson |
| TREASURY: | Richard Brown<br>Graham Conway<br>Ronald Ensom |
| SECRETARY: | Graham Conway<br>Larry Neumann<br>Frank Jones |

V O T E at the December meeting. The Election of Officers are of importance to every member in the Society.

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How many articles have you written for the OVAS News? Each member should contribute at least one article each year...DO IT NOW.

## PRESIDENT'S LETTER
### Junior Society

In the last issue you may recall that I hoped the Society would have 50 members by the end of the year. At the October meeting we reached our goal plus two. The total membership is now 52. The fiftieth member to join was Gordon Hillman.

November and December are election months for us. At the November meeting the Membership Committee will present their slate of officers and added to these will be nominations from the floor. The elections will be held at our December meeting. The new executive will take over in January. I hope that you will put some careful consideration in your choice of officers.

The annual Society Raffle is approaching. Make it a success by selling all the books you can.

Gary Zumar

(Gary Zumar)

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## ODDITIES...OF THE SEA

By Bill Marshall, "The Scalare", The Dallas Aquarium Society, Dallas, USA.

Perhaps some readers have an interest in oddities of the Sea, their sizes and habits. If so this may prove of some small interest to you.

Sharks seem to come to the front anytime creatures of the Sea are mentioned. All sharks are members of the Dogfish Family and are Viviparous (live bearers). A female shark may have from 12 to 25 young each year,

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and like guppies, will not hesitate to make a meal of her young. The better known sharks are the Hammer Head, attaining a length up to 20 feet and a weight of 2000 pounds...a Tiger shark ranges in length to 14 feet and up to 1400 pounds...the Great White shark (most deadly to man) grows to 15 feet and 2400 pounds. The Whale shark (largest)ranges up to 60 feet and the Saw-fish, grows to an amazing 31 feet and 5700 pounds.

Closely related to the sharks are members of the Ray Family. Nearly everyone has heard of a Sting Ray, called Stingaree, which grows up to 400 pounds but the fact that the Manta Ray grows to 6000 pounds is comparatively unknown.

Have you ever stopped to think how many cans a Blue Fin Tuna can fill? Quite a few because they have been caught weighing up to 1800 pounds.

Did you know that most Red Snappers are caught on hand lines at a depth of from 200 to 300 feet? The average Red Snapper weighs 7 to 10 pounds but they have been caught weighing up to 55 pounds.

Many of us have caught fresh water large mouth Bass at one time or another, and 8 to 10 pounds would be considered a terrific catch, but the well known movie actor, Mr Wallace Berry, holds the world's record for Sea Bass by landing a specimen weighting 515 pounds.

One of the most publicized game fish of the sea is the Tarpon. The average Tarpon will weigh between 60 and 80 pounds but the largest on record is 383 pounds.

The fastest fish that swims is the Dolphin and while the average Dolphin weighs approximately 5 pounds, the largest on record is some 75 pounds, caught off the African Coast in 1952. The Dolphin is considered by many to be the most beautiful of

(Cont'd page 26)

all gamefish.

The dangerous Barracuda will average 8 to 10 pounds, but have been caught weighing slightly in excess of 100 pounds.

The Flounder is one of our better food fishes and the writer can recall having been charged about $3.00 for a Flounder which must have weighed approximately 1½ pounds. I wonder how much the 20 pound Flounder caught in New York in 1948 would have cost?

The Spearfishes are fairly well known and Black Marlin have been caught weighing up to 1660 pounds while Sword fish have been caught up to 1182 pounds.

One of the oddest creatures of the sea is the Mola Mola or commonly called the Headfish. It is about 8 feet long and is shaped like a cantaloupe with a pair of fins (top and bottom) at the tail end of the fish. The entire fish looks like one great head and it has an elastic skin about 2 inches thick.

Last but far from least, let us mention the famous Porpoise. These Dolphins range up to 12 feet in length and are considered to be the most easily trained fish in existence.

Small fishes suitable for Marine Aquaria have not been mentioned as the writer feels these little beauties deserve exclusive consideration in some future article.

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A woman was mailing the old family Bible to her brother in a distant city. The postal clerk examined the heavy package carefully and inquired if it contained anything breakable.

"Nothing but the Ten Commandments," was the quick reply.

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## SAND AND GRAVEL

by Bill Barham, "Water Lines", St Louis Junior Aquarium Society, USA.

There are many variations of gravel that can be used. For example, there are the fine filtered sands, course mixtures of sand, and regular aquarium gravels which may be had in a variety of colors. Fine filtered sand is often used in the aquarium, however, some of the subsand filters have difficulty in pulling the choppings and left over food through this. Also, it is hard to clean the surface of this sand because it raises so easily and discolors the water at the slightest movement. Course gravel is not good because the left over food goes below the ground surface easily and the scavengers cannot always get to it; thus, heavy decomposition will taint the water and cause odor. The best type of gravel to use is the regular mixed aquarium gravel because it does not pack too tightly around plant roots and food particles can easily be gathered by scavengers without much trouble. Also, the plants do seem to grow much better in a suitable sand.

The amount of gravel to be used is very important. Surprisingly enough, it will take eight or nine pounds to give the correct depth in a five gallon aquarium. In other words, one should have an inch and a half to two inches of gravel covering the bottom of aquariums. The depth of gravel is very important because most of the plants used need at least that much for growing, and secondly the left overs and the droppings are distributed more evenly to the plant roots.

Newly purchased gravel should be washed thoroughly before being used, even if it is bought to be a pre-washed sand. When washing the gravel, it is best to use a wide

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dish pan. Pour the gravel into the pan and fill it with water. Stir the gravel with your hand. Pour off the milky water and refil the pan, repeating the action used before. This action should be continued until the sand no longer discolors the water. Then for a final wash, pour about a half a cup of salt into the sand and wash in the brine solution with the previous action. Finally pour off the salt solution and rinse until the sand is salt-free. The gravel is now completely clean and reasonably germ free. Thus, to keep the sand clean until it is used, many aquarists store it in containers, keeping it covered with water.

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THE HARVESTING OF WHITE WORMS SIMPLIFIED
by Elsie M. Leys, Member Grand Rapids Society.

Much has been written on raising of White Worms, but not too much on harvesting and feeding clean worms to the fish. Perhaps this home-made method may be of interest to others as it has simplified the job for me by using two empty coffee cans as follows:

I was fortunate enough to have a glass jar with a large enough neck which fits a tin coffee can, the one pound size. I used a large nail to punch holes quite close together in the bottom of the can from the inside out, to allow the worms to crawl through. This is important since had the holes been punched from the outside in, the rough edges around the holes would prevent the worms from crawling out or the ones trying would be injured.

In the second can I had a large hole

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punched in the center of the bottom from the outside in, large enough to hold an ordinary electric light socket with a ten watt light bulb inserted inside the hole so that the light hangs down inside the can. Proceed as follows: Into the glass jar put an inch or so of cold water and into the coffee can with the holes in the bottom goes the worms, dirt and all. Fill can half full, but not more than 2/3 full, for best results. Set this can on top of the glass jar, then set the second can, the one with the light bulb inside, on top of the first can. It won't fit tight which is all right since it allows for air circulation. Then as the heat from the light bulb drives the worms down, they fall into the water in the jar which cools them and cleans them at the same time. Naturally some of the sand will fall through with the worms, but by pouring the water off carefully several times the worms can be easily lifted out with a spoon, or as I often do is to lift them out with the suction bulb or basting glass tube with a rubber bulb which does the job quickly and easily as the worms float above the dirt on the bottom.

I have used this outfit for years and just couldn't get along without it, and I'm sure my fish appreciate such nice clean worms, and it's a pleasure for me to feed them.

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The deacon waited until long after 3.p.m. for his daughter to get home from a date.

"Good morning, daughter of Satan", he greeted her.

"Good morning, Father", answered the girl respectfully.

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## FOOD FOR LARGE TROPICALS

The Editor's Notebook, "The Boston Aquarium News", Boston Aquarium Society.

Feeding the larger species of tropicals is somewhat of a problem for hobbyists during the winter months. After the cultures of garden worms and Enchytrae have been depleted, one searches for acceptable foods that will fill the big mouths. Meal worms are taken by some fishes - others are quite indifferent to them. Goldfish and some large Cichlids will eat rolled oats if they must - but they will wait to see if something else is on the menu. Scraped or chopped beef, small chunks of raw liver ora coarse grind of dehydrated liver are fair substitutes for live food. I also resort to canned shrimp - small sized shrimp - which are taken and apparently relished by most of my tropicals.

In preparing canned shrimp (wet pack) for your fishes, empty the contents of the can in a large bowl, and rinse the shrimp in cold water until the water runs clear. Then spread the shrimp on paper toweling to eliminate some of the bath water, and store them in a clean jar in your refrigerator. I have found that when stored in this manner, they will stay fresh for a week or ten days. By that time, there is not enough left to worry about. A can of small sized shrimp costs about 45¢. Medium or jumbo sized shrimp are rougher and contain more fiber. They appeal more to humans than to tropicals.

I do not like to feed my tropicals ice cold foods - though it may not matter much to them. Thus I remove some shrimp from the storage jar and either warm them on a radiator or leave them exposed to the heat of a room until the chill is removed.

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The shrimp is then fed a bit at a time, and that bit squeezed between the fingers until the meat is pressed into a small flat cake. To be sure, pieces of the meat are scattered about the aquarium, but most fishes will spend some time looking for scraps if they are really hungry. Any water-soaked particles that remain, however, should be siphoned off with a dip-tube. Most tropicals will not eat meats that remain in the aquarium more than a few hours. Apparently the attractive flavor has been soaked out in that time.

Place a few shrimp on a tin above some house heating unit and let them dry out. These may then be grated or ground for a dried food. I mix shrimp meat that has been dried in this way with high protein foods such as Pablum or Gerber's Mixed Cereal flakes. The shrimp imparts its flavor to the otherwise unattractive Pablum, and the whole is eaten with relish. Another excellent dried food may be made by mixing dried shrimp with whole wheat germ.

No matter how hard we try to provide a nourishing dried food for our tropicals, there is really no satisfactory substitute for live foods - live Daphnia, Microworms, Enchytrae, earth worms, meal worms, tubifex, or Drosophila. For normal growth and good health in your aquarium, you should try to give your tropicals at least two of these "square meals" per week.

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"School days are the happiest days of a person's life - if she's a mother!"

Aquatic refers to water and water life in general, but usually has a freshwater connotation. Marine refers strictly to salt water. The two words are not at all interchangeable.

## QUESTIONS AND ANSWERS

Q. What causes all the small snails in my big aquarium to die? Two big mystery snails stay alive. I have 10 kinds of fish, including guppies and swordtails.

A. Enough said. Both guppies and swordtails worry small snails to death. Others do it too, but these are the chief offenders. "Mysteries" fare better.

Q. One of my female guppies looked as if she were about to give birth to her young, so I put her in a 1-gallon tank by herself, and this morning she looked as if she had delivered the babies, but there were none to be seen. This is the second time this has happened with the same female. She is a large fish and apparently healthy. The gallon tank is very heavily planted. What can be wrong?

A. It is quite possible for a large female guppy to have a comparatively small brood of young, such as 25 or so. These she could easily eat, although it is rather unusual for a female to eat every last youngster within a few hours of delivering them. Evidently the individual is quite cannibalistic. Of course the youngsters are at a disadvantage in so small a tank as one-gallon. They would no doubt stand a better chance of escaping if the tank were 3 or 4 times bigger, and planted with fine-leaf plants such as Myriophyllum. This female could surely be thwarted by placing her in a breeding trap.

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