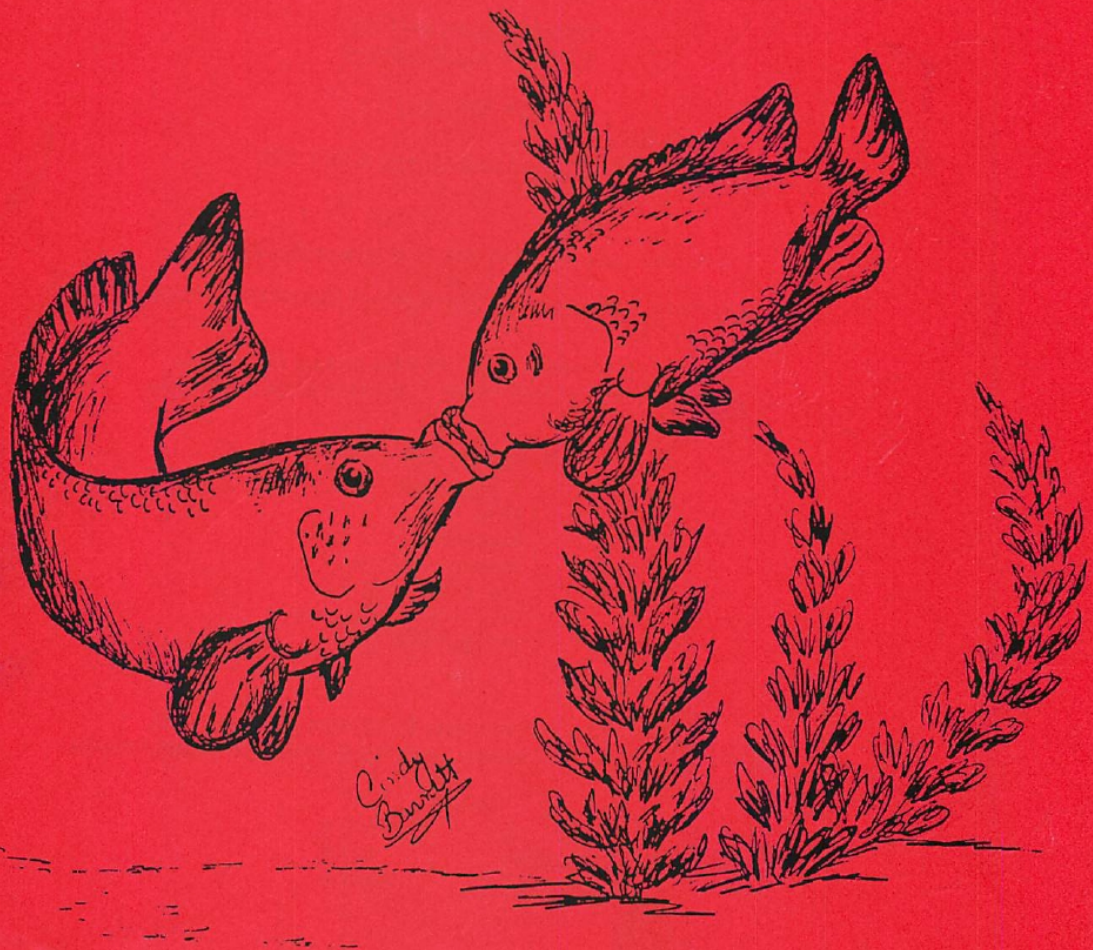


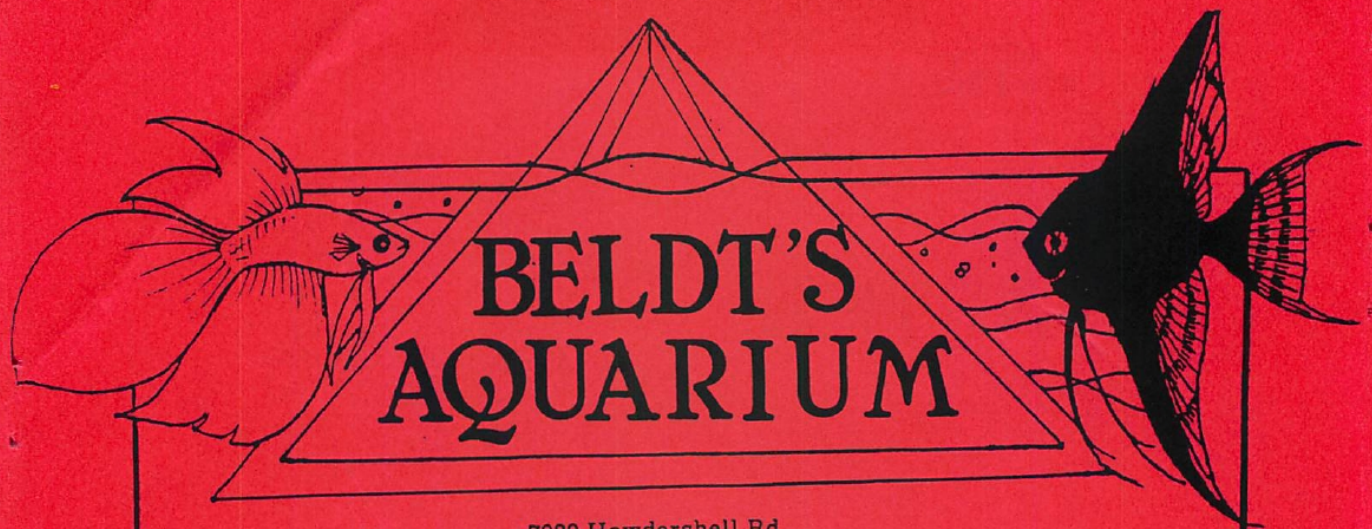
THE
DARTER

NOVEMBER
DECEMBER
1989



PUBLICATION
of the

MISSOURI AQUARIUM SOCIETY, INC.



BELDT'S AQUARIUM

7029 Howdershell Rd.
Hazelwood, Missouri

314-895-3350

1 mile west of Lindbergh and I-270

Over 200 tanks including our 1,800 gallon display tank.
We have everything for both the beginner and the advanced hobbyist.

Cichlids are our speciality. We have at least 50 varieties
of Africans and 40 of Neotropical Cichlids in stock at all times.

COMPLETE LINE OF:

- Tropical Fish
- Birds
- Aquariums
- Aquarium Supplies
- Dog & Cat Supplies
- Small Animals Supplies
- Bird Supplies

Our hatchery contains over 2,000 tanks and vats full of
imports for Bangkok, Singapore, Hong Kong, Africa and South America.

HOURS

Mon. - Fri.	9 to 9
Saturday	9 to 6
Sunday	12:30 to 6



SPAWNINGS VERIFIED IN SEPTEMBER & OCTOBER, 1989

PARTICIPANT	SCIENTIFIC NAME	COMMON NAME	POINT VALUE	GRAND TOTAL
Joe Schrader	Pterophyllum scalare	Silver Angelfish	** 0	145
Peggy Scott	Haplochromis borleyi	Orange Finned Borleyi	* 10	1,850
Curt Skouby	Herotilapia multisponosa	Golden Rainbow Cichlid	5	
	Poecilia sphenops	Marble Sphenops Molly	5	
	Xenotoca eiseni	Red Tailed Goodeid	10	
	Xiphophorus maculatus	Painted Platy	5	125
Mike & Sherry Taylor	Fundulopanchax gardneri		5	
	Melanotaenia bosemani		10	50
Pat Tosie	Cyathochromis obliquidens		10	
	Lamprologus brichardi	Albino Brichardi	*/** 0	
	Tanichthys albonubes	Long Finned White Cloud	** 0	770
Ron & Linda Williams	Poecilia latipinna	Black Sailfin Molly	5	
	Poecilia reticulata	1/2 Black Red Guppy	5	
	Sarotherdon mozambique		5	15

* First MASI spawning

** No points assigned - Species already spawned - Color Variety

*** Points will be awarded upon submission of a written article or an oral presentation detailing the participant's experience in spawning this species.

BAP AWARDS EARNED

LEVEL/SPECIALTY	PARTICIPANT	DATE
General Breeder		
	Bob Huels	10/89
	Mike & Sherry Taylor	09/89
Species		
	Poecilia reticulata	Charles & Mary Ann Lenau 09/89
	Xiphophorus helleri	Bob Huels 10/89

 *
 * THE LABRYNTH'S LAIR *
 *
 * Fred & Sue Cotterell *
 * Missouri Aquarium Society, Inc. *
 *

BIGGER BETTAS - AN OVERVIEW

In the fish world, not all good things come in small packages. If this sounds a little strange, take a look at the family of cichlids. It contains some really ornery little characters, and some that are almost impossible to get to respond to every effort to spawn. The same is often true for the smaller members of the genus, *Betta*. We have to contend with the *Betta coccina*, the red wine Betta which has the ability to find the smallest crack in the aquarium hood and disappear. But as with cichlids, we have some larger Betta species that are very interesting and different. By larger, we mean those bettas that are 3 & 1/2" or more in total length.

While doing research on our favorite fish, we have found that there are some twenty-five different bettas, split between bubblenesters and mouthbrooders. Nine of these species are estimated to be over the minimum length stated above. Each has varying needs and requirements for successful keeping and spawning. Each presents a different challenge to the aquarist. We hope that this information will be helpful to you.

- B. anabantoides* A mouthbrooder which likes a planted aquarium with a slow water flow.
 Size - 5.0" pH - 6.6 Temperature 80 F.
- B. bellica* A bubblenester which like a well planted aquarium.
 Size - 4.5" pH - 6.6 Temperature 80 - 82 F.
- B. edithae* A mouthbrooder which likes plants and a slow water flow.
 Size - 4.0" pH - 6.8 Temperature 80 F.
- B. fasciata* A bubblenester which likes a lot of plants in a large tank. Little or slow water flow.
 Size - 4.0" pH - 6.8 Temperature 80 F.
- B. fusca* A mouthbrooder which likes plants and slow moving water.
 Size - 3.5" pH - 6.8 - 7.0 Temperature 75 - 78 F.

- B. macrostoma A definite mouthbrooder which likes rocks and fast moving water. Requires a large tank - 30 - 55 gallons.
 Size - 5.5" pH - 6.6 - 6.8 Temperature 75 - 78 F.
- B. pugnax A mouthbrooder which likes a lot of plants and water flow.
 Size - 4.0" pH - 6.6 - 6.8 Temperature 75 - 78 F.
- B. taeniata A mouthbrooder which likes plants and a good flow of water.
 Size - 3.5" pH - 6.6 - 6.8 Temperature 75 - 78 F.
- B. unimaculata A mouthbrooder which likes a lot of plants with fast flowing water.
 Size - 5.0" pH - 7.2 - 7.5 Temperature 80 F.

This list will grow each time an island in the South Pacific region is explored. In the past decade, at least four new species have been found, and with much of Borneo and the surrounding islands being unexplored, one can only guess at what remains to be found.

With most other mouthbrooding species, the female is the one which broods the eggs and watches out for the fry. In the genus *Betta*, the roles are reversed, so much so that the female who ventures near her mate after spawning is in danger of losing fin or even life! Most take anywhere from nine to fourteen days to incubate the eggs. At the time of their release, these fry can eat newly hatched brine shrimp, and do so with great relish. It is best to remove the male after the release of the fry, since after his enforced fast, he may look upon them as food - not an extension of his gene pool.

Except as noted, we recommend that the larger bettas be kept in tanks of at least ten gallons, although a ten gallon is cramped for the *B. pugnax*. The real giants, *B. macrostoma* and *B. unimaculata*, need as long and as large a tank as one can spare.

The genus *Betta* is endlessly fascinating to us. The smallest to the largest species provides some challenges that can really try the patience of even the most experienced aquarist.

 * CORRECTION * CORRECTION * CORRECTION * CORRECTION *

The November meeting notice incorrectly indicated that the date of the Winter Auction would be December 17, 1989. The correct date is DECEMBER 10, 1989!

* CORRECTION * CORRECTION * CORRECTION * CORRECTION *

Next up, Mr. Paul Ogles and Dr. Lucas were presented with plaques for their participation in the IBC sanctioned show. Then awards presentations and announcements began. The Show Chairperson, Donnie Cloud, swept the African Rift Lake Cichlid class. She also won first and second places in the Other Cichlid class. A young lady named Stacy Rushing placed first in Novelty Effect Tank with a beautiful tank set-up called "Clear Images." It had clear glass flowers, quartz rock and sparkling white lyretail mollies. Stacey also won a Novice Award for best showing at her first annual show.

Our own local participants also did well. Jim Thale took two first places, one for egglayers with his long-finned Rosey Barb and the other in Natural Effect Bowl. He also won the Best Fish of Show award. Mr. Elvis Bryant had sent a few guppy entries and was rewarded with a second place and a third place in that class. My Albino Corydoras aeneus and a Sunset Swordtail took first place in their respective classes. I also placed third with one of my bowls in Natural Effect Bowl.

I can't overlook the great showing in the betta show. Both Bob Reich and I received several ribbons that we are very happy with. Bob placed twice and I placed in three classes. In addition, a member of the Gateway Betta Breeders Association from Oklahoma sent in a tandem registration for "Griffin, Cotterell & Reich." It won a third place. For those not familiar with tandem showing, it is often done with bettas when the fish is expensive, purchased in a large group, or any time a tandem entry is desired.

The Mid-South Aquarium Society is a great group of people. I recommend that you keep your calendar open next year for a trip to the South. That gang will be holding an auction on November 17th. If you want to send some items down, let me know in advance and I'll add them to my shipment. Of course, don't send all of your auction items off. We will want to see some of them next month at MASI's auction.

Well, I'm finished here until I find another show and the time and means to get there. Then I'll dust off the bowls, break out the bags, and hit the road.

* REMINDER * REMINDER * REMINDER * REMINDER *

Don't forget that December is the month to nominate your favorite member as MASI's Member Of The Year for 1989. This is the highest honor bestowed upon any member. If you have been impressed by someone's efforts for MASI, nominate them. Just bring a few written comments as to why you feel they are deserving. The winner will be selected in January.

* REMINDER * REMINDER * REMINDER * REMINDER *

(314) 963-1798



Webster Pet & Aquarium

8153 BIG BEND, WEBSTER GROVES, MO 63119

10% DISCOUNT FOR M.A.S.I. MEMBERS
(EXCLUDING SALE ITEMS)

CORYDORAS JULII... .99¢
CORYDORAS AGAZZI... .99¢
CORYDORAS PUNCTATUS... .99¢
ALBINO CORYDORAS... .99¢
CORYDORAS MELANISTUS... .99¢
GREEN COBRA GUPPY... .99¢ A PAIR
RED FANTAIL GUPPY... .99¢ A PAIR
BLUE FANTAIL GUPPY... .99¢ A PAIR

JUMBO GREEN DISCUS... 25.00 EA.
MED. GREEN DISCUS... 14.99 EA.

ALL OUR TANK & HOOD COMBOS ARE
ALWAYS ON SPECIAL!! FANTASTIC
SAVINGS!!

" FISH OF THE WEEK "
BETTA SPLENDENS
SIAMESE FIGHTING FISH
REG. 2.99 SALE ONLY 1.49

ANGELFISH FROM .79¢ TO 14.99 LOCALLY BRED, VIRUS FREE (GOOD
SELECTION) INCLUDING WILD CAUGHT P. ALTUM!

 *
 * SOUNDS FROM THE SOUTH *
 *
 * Bob Reich *
 * Missouri Aquarium Society, Inc. *
 *

THE STATE OF CONFUSION

At this time, I must admit that I in a state of confusion.

Should I continue my article about the salt tank which I started the last time I sat in front of this grand old typewriter. I must say that all I have left in the tank is the hermit crab and three anemones. (I am tired of seeing the same old thing for so long.)

OR.....

How about the ordeal that I went through for four days and three nights of switching bettas (male and female splendens) back and forth because I couldn't decide on the ones to send to the Memphis show last month. This also included the switching of wild bettas (imbellis, picta, pugnax).

OR.....

How about the ordeal I'm going through trying to breed a male splendens and a female imbellis. For some reason, the male keeps eating the eggs. But, I did see one fry the other day that looked like it may have been a week or two old. Could it be success after so long?

OR.....

I could write about the strenuous work involved in cleaning the house for the Executive Council Meeting that was here in September. My apologies to the ones that did see the mess that I didn't get around to. My thanks to the rest of you that were not able to attend - I would have been that much more embarrassed because of the areas that weren't cleaned. Of course, I still can't find some of the things that I though I stuffed under the bed. Or did I throw those things in the closet?

BUT.....

There is one thing I have made a decision on.

I would like to apologize to my Mom, because after reading my article on the saltwater tank, she called me at 7:02 a.m. to say how proud she was of her son who finally started using a talent that he had all his life.

 *
 * THE LABRYNTH'S LAIR *
 *
 * Fred & Sue Cotterell *
 * Missouri Aquarium Society, Inc. *
 *

BREEDING BETTA PUGNAX - THEM GIANT BETTAS

We recently acquired some Betta pugnax, one of the largest species of the genus Betta, reaching a total length of approximately four inches. We placed our specimen into a ten gallon tank planted rather heavily with Brazilian waxed swords, Vallisneria, octopus plants, and some Cryptocorynes. We also used some pieces of a clay flower pot to provide cover for female. We had read that the male Pugnax tends to be a little aggressive while spawning.

We soon discovered that the Pugnax will eat almost anything thrown at them. As we observed the aggressiveness of the male, we decided to curb some its meanness toward the female by using dither fish. We had a lot of culled mollies which we decided to use as "bait." As soon as they hit the water, they were eaten by the "pugs." It looks as though the Pugnax might be one of the meanest fish one can keep.

The sexes of the Pugnax are fairly easily recognized. The male exhibits a much larger caudal fin than the female. The male's caudal fin also come to a point. The overall color of the Pugnax is a basic olive with bright iridescence in the area of the gills and gill covers.

The basic requirements for maintaining this species include:

1. A tank of at least ten gallons. The Pugnax will grow to four inches or more so the lager the tank, the better.
2. A well planted tank with hiding places for the female.
3. Soft, acidic water with a pH of 6.8 or less, a softness of 30 - 40 ppm, and temperature of about 80 F. Our Pugnax seem to thrive in the peat-filtered water that we use for our Radis badis, ctenopoma, and other wild bettas. The 80 temperature is the optimum for successful spawning and raising Bettas, in general.

B. pugnax are mouthbrooders. We observed a spawning late one evening. The female began to take on the light vertical bars typical of most species of the genus Betta. The male relentlessly pursued the female until she submitted, and the spawning occurred on the bottom of the tank. The male lay on his side while the female lay within the embrace. The male formed a small cup with his anal fins to catch the eggs. The female picked up the eggs and spit them in the male's direction. The male retrieved the eggs and held them in his mouth. The entire ritual lasted about 2 & 1/2 to 3 hours. The female suffered only a few splits between the rays of her anal and caudal fins.

* THANK YOU * THANK YOU * THANK YOU * THANK YOU *

The Missouri Aquarium Society, Inc. thanks the following firms for their gracious donations throughout 1989.

AQUARIA, INCORPORATED
AQUARIUM PRODUCTS
BELDT'S AQUARIUM
BRAMPTON COMPANY
D & E TROPICALS
FINNY WORLD CLASS PET PRODUCTS, INC.
FRITZ CHEMICAL COMPANY
HAWAIIAN MARINE IMPORTS
HIKARI SALES, USA
KORDON MFG.
LONGLIFE PET PRODUCTS
MARDEL LABORATORIES
PENN PLAX PLASTICS, INC.
PYTHON PRODUCTS
ROLF C. HAGEN LTD.
SANDER'S BRINE SHRIMP
TETRA SALES
WILLINGER BROTHER'S. INC.

AQUARIUM PHARMACEUTICALS, INC.
BAUSMAN PET SUPPLY
BERNADETTE BUSINESS FORMS
CON-AGRA PET PRODUCTS
EUGENE DANNER MFG.
FRESHWATER AND MARINE AQUARIUM
GINGER PRODUCTS
HARTZ MOUNTAIN CORP.
JUNGLE LABORATORIES
LEE'S AQUARIUM PRODUCTS
LUSTAR PRODUCTS
MARINELAND PRODUCTS
PERFECTO MFG., INC.
ROLF C. HAGEN CORP.
SAN FRANCISCO BAY BRAND, INC.
TFH PUBLICATIONS
WARDLEY PRODUCTS, INC.

=====

MASI'S CLASSIFIEDS

<p>AQUARIUMS REPAIRED</p> <p>Broken Glass Repaired Cracks Patched * Leakers Sealed Hinged Glass Covers</p> <p>Ralph Wilhelm 314-481-7061</p>	<p>UNDERCOVER WEAR, INC. Bob Reich Sales Representative</p> <p>314-544-4826 Agent #31224 Innovators of the Home Lingerie Party</p>
<p>314-586-0203</p> <p>SEA WORLD "A Complete Line of Aquatic Supplies & Tropical Fish"</p> <p>OWENER 210 Main Street Ken Slinger DeSoto, MO 63020</p>	<p>Advertizing Rates (6 issues):</p> <p>Full Page \$60.00 Half Page \$45.00 Business Card \$10.00</p> <p>Contact: Bob Huels (314) 832-3071</p>

MONTHLY BOWL SHOW SCHEDULE - 1990

ALL MONTHS Open - (Any species not scheduled for showing in that month)

JANUARY Catfish - (All species except Corydoras, Brochis, Aspidorus and suckermouth varieties)
Anabantids - (All species except Bettas)

FEBRUARY Killifish - (All indigenous species of the New World)
Female Guppy - (All color and finnage varieties)
Sharks & Loaches

MARCH Cichlids - (All indigenous species of Lake Malawi)
Livebearers, Normal Finnage - (All species except guppies)
Female Betta Splendens

April Goldfish - (All color and finnage varieties)
Tetras, Rasboras, Danios, and Characins
Photos

MAY Male Guppies - (All color and finnage varieties)
Male Betta splendens - (All color and finnage varieties)
Killifish Open

JUNE Catfish - (Corydoras & Brochis only)
Cichlids - (All indigenous species of the African Rift Lakes except Lake Malawi)
Bettas - (All species except Betta splendens)

JULY Angelfish - (All color and finnage varieties)
Native Fish
Rainbows

AUGUST Cichlids - (All species 4" or less [SL] at maturity except the indigenous species of the African Rift Lakes)
Suckermouth Catfish - (All color and finnage varieties)
Killifish - (All indigenous species of the Old World)

SEPTEMBER Breeder's Open - (Any fish bred and raised by exhibitor)
Crafts and Arts

OCTOBER SUPER BOWL - (Special rules and classes)

NOVEMBER Livebearers, Fancy Finnage - (All species except guppies)
Barbs - (All color and finnage varieties)
Cichlids - (All species over 4" [SL] at maturity except the indigenous species of the African Rift Lakes)

DECEMBER CHRISTMAS PARTY - No Bowl Show

NOTE: A "People's Choice Award", determined by votes cast at the meeting, will be presented at each showing. The purpose of this award is to encourage entrants and meeting attendees to view all of the entries. Entrants should let their exhibits on display so they may be viewed. There will be no points given for this award.

1990 MONTHLY BOWL SHOW RULES

1. All entries must be registered with the Bowl Show Chairman no later than 7:30 p.m., before the start of that month's general meeting. There is a limit on three entries per class. The entrant must be a MASI member.
2. All fish entries must be shown in bare flat-sided drum bowls or tanks up to 5 1/2 gallons in size. (NOTE: A PROPER SIZE CONTAINER FOR THE SIZE OF THE FISH!) No backgrounds, lights, gravel, plants or other decorations are permitted. Aeration is optional. All equipment must be provided by the entrant.
3. Only one fish, male or female, per bowl or tank is permitted. Each entry may be entered in only one class. Entries in specified classes may be shown in either the Novice or Hobbyist divisions. Members may show fish of their choice each month in the Open Class, Novice and Hobbyist combined, providing there is no conflict with the specified classes. A fish may be shown as often as desired in the Open Class; but after four wins, the fish must be retired from competition in the Open Class. An award will be presented for any fish so retired.
4. Hybrids, the offspring resulting from the cross breeding of two different species, are not permitted in the Monthly Bowl Show. As a matter of ethics, fish should have been the property of the entrant for a minimum of sixty (60) days prior to the date of the Monthly Bowl Show. Photos, crafts, and art work must be the work of the entrant.
5. Healthy fish, only, are permitted in the Monthly Bowl Show. If, in the opinion of the judges and the Bowl Show Chairman, a fish is deformed, diseased or injured; the fish will be disqualified. The decision of the judges and Bowl Show Chairman is final.
6. Appropriate MASI materials are used for judging references and size standards. All stated sizes refer to the STANDARD LENGTH (SL) mature specimens. The Standard Length is the distance from the tip of the fish to the end of the caudal peduncle. The Standard Length does not include the tail (caudal) fin of the fish.
7. Points are assigned based on the judging criteria. Decisions of the judges are final. Judging sheets are completed for the top four entries in each class. Time permitting, the judges may complete sheets for other entries. These sheets are available to the entrants.
8. Awards are presented to the top three entries in each class and division. In addition, points toward the Novice and Hobbyist Show Champions Of The Year honors will be awarded as follows.

First Place: 5 points
Second Place: 4 points
Third Place: 3 points
Non-placing Entries: 1 point per entry