

SOUTH SOUND EXOTIC BIRD SOCIETY NEWSLETTER

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P.O. Box 15014, Tumwater, WA 98511-5014
<http://ssebs.org>

DECEMBER 7 HOLIDAY PARTY

1:30 to 3:30 PM at Dirty Dave's (3939 Martin Way East) in Lacey.

In addition to pizza, there are all sorts of yummy things on the menu and a salad bar.
Bring an inexpensive, but "interesting" (open to interpretation), gift for the pirate gift exchange.
We have the room only until 3:30, so let's not stroll in too late.

Directions to Dirty Dave's:

Heading South on I-5: Take exit 109 (Martin Way/College St/ Sleater Kinney N.). Turn right off the exit ramp onto Martin Way. Travel 0.8 miles. Dirty Dave's is on the left.

Heading North on I-5: Take exit 108 (Sleater Kinney/College). Follow the ramp to Sleater Kinney North and go 0.8 mile. Turn left onto Martin Way. Travel 0.2 miles. Dirty Dave's is on the left.

FEBRUARY 13 MEETING

Deanna Shafar, DVM, will be the program speaker for our February meeting. She will bring us up to date on all that is going on in the avian veterinary world. Because of the number of people expected, the meeting will be at the Olympia Center.

FULL SPECTRUM LIGHTING FOR BIRDS

One of the most commonly asked questions by birdkeepers about cage lighting concerns the effective and proper usage of full spectrum (or FS) lighting devices. Little in the way of 'fact' exists as to the types of lamp to be used, the correct distance of lamp assemblies to the cages or flights, or the effective life of these devices. Much of what is being spread about as lighting "fact" is directly translated from practices used in the keeping of reptiles. Birds and reptiles, however, have completely different illumination and dietary requirements; and it is error to translate the application of lighting for reptiles to practice with birds.

There are two parts to full spectrum lighting: a) General Illumination, and b) Specialty Illumination.

A general illumination lamp that may be properly termed full spectrum has a CRI (color rendition index) of greater than 90, and a Color Temperature of >5000K. An FS designation only alludes to the range of light visible to the human eye, as it closely emulates natural sunlight and color balance. These devices are not intended as a source of UV irradiation, but do produce small amounts of UVA as a byproduct of their operation.

Specialty illumination devices, such as the pet series (Vitalite, et al.) and tubes for seasonal affective disorder (Ott, et al.) contain varying amounts of ultraviolet light in the near (UVA) and possibly middle (UVB) ranges in addition to meeting the general illumination criteria. The de facto standard UVA/UVB ratio is 28:11. Depending on the result required from FS solutions, various distances are used to maximize their effects. This becomes of great importance for the consideration of the birdkeeper in choosing a proper lighting solution.

A major study of general lighting practice employed by birdkeepers revealed that, on average, the popular distance from bird to light was 14-18." Often, to achieve this distance the lighting source was placed several inches above, or directly on top of the cage. A 14-16" (or any other arbitrarily set) concept of lighting placement is relevant only to the effective ultraviolet output (irradiance) of a lighting device. Some FS specialty fluorescent devices designed for pet application (reptile, bird, aquarium, etc.) produce small amounts of the middle range of ultraviolet light, known as UVB along with greater amounts of the near range, UVA. There is a specific segment of the UVB range which is the active "vitamin synthesis" component of ultraviolet light. Unfortunately, the output of these devices in this range is very weak compared to the total visible spectrum of light which they produce. The UVB irradiance is much weaker than the visible light output (<0.5%), it is unbalanced negatively in relation to natural sunlight levels, and it does not travel as far from the lamp as visible light. The popular concept has been to place the lighting source as close as possible to the bird to achieve useful exposure for natural pre-vitamin D (cholecalciferol) synthesis (4).

Unfortunately, several sets of problems begin to present themselves by doing so. To begin with, output of the light changes as the device ages. The lumen (brightness) output of the visible portion of the light may change only 10-20% over the entire lifetime of a lamp. If one operates the device for two years at an average of 12 hours per day, 8760 hours of use on the lamp has occurred.

By this time, at least 10-15% of the visible light output of the lamp has decreased, and there have also been primary color shift changes due to phosphors within the lamp degrading unevenly. It's time to replace the device to achieve a balanced lighting perspective, regardless of whether the manufacturer states the rated lamp life at 16000 or 20000 or 30000 hours. These rated figures do not reflect an efficient or balanced output of the device -- they simply mean that the lamp is likely to cease working altogether at that time. The maximum benefit of FS can only be realized when the output of the lamp assembly still maintains balanced color ratios.

The phosphors that produce ultraviolet light are different from the mixture employed to produce visible light. They degrade at a much quicker rate. This means that the "vitamin" range of light steadily decreases in a 3:1 ratio to the visible output, and not equally across the UV spectrum. There will still be amounts of UVA (not part of vitamin synthesis, but visible to your bird) long after the UVB range has disappeared from the lamp output. Therefore, after about 3000 hours of operation, levels of UVB irradiated from the lamp will have decreased by approximately 20%.

Compare this to the 10% loss of visible output at 9000 hours, and consider that the UVA/UVB portion of the lamp only constituted about 1% of the total output of the lamp when new. This is roughly 250 days of use, after which the bird would have to be sitting directly on top of the fluorescent tube itself to receive benefit, if any. A few devices may output Vitamin D specific wavelengths (295-300 nm) a little longer depending on the original quality of the device, but none over a year. And efficiency will have degraded after six months to where the device is generally useless in playing a part in the Vitamin D synthesis process.

The most popular device for avian lighting -- Vita-Lite by Duro-Test -- maintains its integrity within these parameters, and after 3000-4000 hours functions basically the same as any high quality general full spectrum for avian use at standard illumination distances.

Another problem concerns avian visual and endocrine disturbances from the visible and UVA output of the lamp at close range. Birds have tetrachromatic vision, meaning that UVA is part of their "color" perception range, along with blue, green, and red. If the reader takes a fluorescent lamp assembly and sits with it about a foot or two away from his/her face for twelve hours, it will not be a pleasant experience. Light plays an even more important role for birds than for humans in metabolic control. Avian forms gather information about light quality from the retina. This information is then relayed back to the pituitary gland. The Harderian gland around the eye also transmits information about light duration (photoperiod) and wavelength to the pineal gland.

Taken together, these two pathways set the pace for all subsequent endocrine-regulated metabolic processes. Improper lighting can bring on varied health problems; behavioral and breeding disorders which are often attributed to other sources. These symptoms and problems include but are not limited to: lack of strength and endurance; feather and toe picking; restlessness and agitation; decreased immune response; abnormal sex ratios in breeder situations. Therefore, how could one even consider an arbitrary close distance appropriate for the health and environmental comfort of their bird?

Concentrations of UVB in fluorescent tubes can be increased, but due to the amount of barium-based phosphors involved, these devices are no longer lamps which can produce a suitable visible spectrum. When manufactured in this manner, the lamp becomes either a reptile series lamp or tanning (erythemal) device, and must necessarily be regulated or controlled in exposure to prevent damage to humans and animals. The effective life span of these devices is also short. Reptiles and birds have a safety mechanism that uses Vitamin A within the cornea and lens to filter out and make harmless "normal" levels of UVA/UVB; humans do not have this protection. Unnecessarily increasing the UVA/UVB to peak levels may cause problems to present themselves in the form of retinal degeneration, cataract formation, and calcium/bone disorders.

This problem may be compounded if your bird's diet is deficient in Vitamin A, and this protection is weakened. It is for this reason that not many years ago cataract formation was a standard outcome in specialty lighting for both birds and reptiles. Some improvement of avian diet has occurred in the intervening years, but the path to proper nutrition for many species is still being researched. Most pelletized diets, and a balanced natural diet contain cholecalciferol or calciferol, a precursor to Vitamin D3. The presence of UVB is not necessary for birds to convert this form to usable and sufficient levels of Vitamin D. Given this, use of the reptile series lamps is not appropriate for general aviculture. Unless the bird has a Vitamin D deficient calcium metabolism problem or is overproducing eggs and depleting calcium, reptile series and high output UVB devices should never be considered except as a temporary treatment procedure.

To summarize:

1. UVB is a very small component of some "full spectrum" specialty series lights. There is no UVB present in general lighting "full spectrums".
2. UV light does not travel far from its artificial source, and must be placed close to the bird to be effective. This distance shortens in direct relation to age in hours of the lamp.
3. The UVB component is short lived, compared to the usable life of the device itself.
4. Placing a device right on top of a bird is uncomfortable and a disturbance to its visual acuity and metabolic process.
5. Proper levels of nutrition containing cholecalciferol/calciferol supplement remove the need to provide UVB sources in lighting.
6. Replace the tubes every 2 years, or if marked flicker, loss of brightness, or color skewing occur before this time.
7. Never use reptile or high output UV devices except as treatment devices at the instruction of a qualified avian veterinarian.

With these facts in mind, a lighting system composed of a high quality, reasonably priced general FS, or specialty FS solution is appropriate. This may consist of a Vita-Lite, Lumichrome IXC, Chroma 50, Chromalux, etc. Any

lamp with a CRI of greater than 92, and Color Temperature of 5000-5800K will suffice. Costly solutions such as Ott, etc., offer no demonstrable scientific benefit over a comparable Vita-Lite installation.

For practical purposes, nothing smaller than a 2' double tube assembly should be used. Whatever the length, a dual tube configuration should always be employed. This fixture should be suspended a distance of at least two feet from the top surface of any cage or flight assembly. With a dual tube 48" assembly, up to four feet will suffice.

Under no normal circumstances should a light housing be placed closer than two feet from the top of a large cage or flight. If it is an ample working illumination level for humans, it is adequate for the bird, as the same rules of general illumination apply to both. If it is too bright in the illuminated area, height may be increased. Protection of the device itself may be accomplished by the use of an Acrylite OP-4 cover (material available at most large sign companies), or a 3/8" to 1/2" mesh hardware cloth wrapping. Special precautions need not be taken, as the risk of any zinc toxicity to the bird from this kind of application does not exist.

Use good judgment in routing electrical cables and suspension chains. All lighting systems should be on a timer to maintain a consistent photoperiod of approximately 12 hours per day. This timing should coincide with the natural rising of the sun in the mornings. Adjustment should be made to provide for daylight savings time changes. This timing is to be applied to non-breeders. Breeding cycles and yield may be manipulated to greater potential by gradually increasing the timing to approximately 16 hours per day, depending upon species and season.

Again, unless you are supplementing a bird with metabolic problems, the "closer is better" rule is neither beneficial or cost effective to the aviculturist. The real effect of lighting upon general health, new molt, feather appearance, and behaviors is brought about by a balanced avian visual spectrum. Supplement artificial lighting whenever possible with natural unfiltered sunlight, and feed a high quality balanced diet. This will meet all of your bird's requirements for lighting and nutrition.

(Derived from a 1999 article by Patrick Thrush)

PDD SAMPLES WANTED

**AMERICAN FEDERATION OF AVICULTURE REQUESTS
HELP FOR TEXAS A&M UNIVERSITY IN DIAGNOSING
PDD ILLNESS IN PARROTS !**

TEXAS A&M UNIVERSITY NEEDS YOUR HELP! Investigators at the Schubot Center at Texas A&M University have developed a Western Blot assay test. The test appears to detect antibodies directed against the causal agent of Proventricular Dilation Disease (PDD), most likely appearing as "avian bornavirus."

Researchers need to evaluate this test in large numbers of birds to determine the test's sensitivity, specificity, and usefulness in assisting in the diagnosis of PDD.

Serum from birds with known PDD status is now needed. Your veterinarian can prepare very small quantities (100 ul) of serum blood taken from individual birds. These samples can be submitted to the Schubot Center with a short background on your bird.

Ideally, samples are needed from birds that have tested positive for PDD on crop biopsies. Additional samples are also needed from birds that are negative for PDD, have no history of being exposed to PDD, and that come from an aviary without a history of PDD. Veterinarians should forward serum tests to:

Attn: Schubot Center
Dr. Tizard
Texas A&M University - Veterinary Medicine
215 VMS Bldg
College Station, TX 77843

Samples submitted will help contribute toward identifying and bringing an end to this devastating disease.

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kegdharth@hctc.com

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Contact Linda James:

360-491-3216

jamesgang@thurston.com

CLUB INFORMATION

- As a general rule, the first half hour of each General Meeting, from 7:00 to 7:30 pm, will be dedicated to socializing. The evening's program will begin at 7:30 pm, and the regular meeting will follow the program.
- For information, call 360/455-0697.
- The SSEBS mailing address is:
 South Sound Exotic Bird Society (SSEBS)
 P.O. Box 15014
 Tumwater, WA 98511-5014
- Please use this address for all club correspondence except for items to be sent to the newsletter editor. Send newsletter correspondence to: Pegg Bauer, 8008 Ellison Loop NW, Olympia, WA 98502

SSEBS Officers Needed
Officers are needed for calendar year 2009.
If you are interested in serving,
please contact Pegg Bauer.
peggb@comcast.net or 360/584-6495.

Join !! SSEBS YahooGroup.

This is not a "chat group" as such (a "chat group" generally means that everybody is on line at the same time, "talking" back and forth by typing messages in real-time.) With a YahooGroup, e-mail messages are posted to the group which then distributes copies of the messages to the subscribers, depending on how they want to receive the message copies.

Go to <http://pets.groups.yahoo.com/group/SSEBS/>. You can join by clicking on the "join this group" button on the home page or by sending an e-mail message to SSEBS_subscribe@yahoo.com. Learn how the group works: <http://help.yahoo.com/l/us/yahoo/groups/original/members/> is the place to go.

**SUPPORT YOUR CLUB:
 COMMERCIAL ADVERTISING**

Each commercial membership includes one business-card size advertisement in the newsletter. Commercial members may also purchase additional ad space at the following rates:

One half page \$50
 Full page \$87.50

Non-members may purchase ad space at the following rates:

Business card size \$40
 One-half page \$100
 Full page \$175

All ads run for a 12-month period. Send camera-ready artwork neatly printed ad copy to SSEBS, P.O. Box 15014, Tumwater, WA 98511-5014. Copy and payment received by the third Thursday of the month will appear in the following month's newsletter. Copy change during the current period will be considered on a case-by-case basis and additional charges – if any – determined at the time of the request. All ads must be paid in full prior to being published. The SSEBS Board of Directors reserves the right to refuse any advertising it deems inappropriate. Questions? Contact Pegg Bauer, Editor.

2009 Meetings

February 13

August 14

April 10

October 9

June 12

December Xmas party (date tba)

As a Society, SSEBS does not endorse the products or services advertised in its newsletter. SSEBS is not responsible for advertisers' claims or products.



**FINE FEATHERS
& FINS**

Cage Bird & Aquarium
 Supplies

114 Miller Road Randle, WA
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Lineolated parakeet babies:
 2 cobalts, 2 lutinos, 2 greens \$200 - \$300
 Rosy Bourke babies \$85
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Fine Feathers and Fins
 114 Miller Road, Randle, WA
 360-4997-2160 mews@centurytel.net

SSEBS is proud to be associated with:

- NORTHWEST EXOTIC BIRD SOCIETY
P.O. Box 47377, Seattle, WA 98146
<http://NWExoticBirdSociety.org>; Email: Info@NWExoticBirdSociety.org
Meetings on the third Thursday of each month
- THE WASHINGTON BUDGERIGAR SOCIETY
2126 Bedal Lane, Everett, WA 98208-2439
<http://mysite.verizon.net/resom1a2WBS1.htm>; Email: swanson28s@verizon.net
Meetings on the first Sunday of every month.
- THE BIRD LOVERS SOCIAL CLUB
(Renton area)
For information, contact: President Julie Corwin, 206-772-1730
Email: blconnection@hotmail.com
http://www.geocities.com/bird_lovers_club/
Events and Educational Programs only – no meetings

SSEBS Meeting Time/Place

SSEBS meetings are NORMALLY (but not always!!) held in Room 103 at the Olympia Center, 222 Columbia St NW, Olympia, WA 98501-8208 on the 2d Friday of each month. This can, however, vary – check your newsletter and the website. From I-5, take the Capitol exit, which comes out onto 14th Street. Follow 14th through the tunnel and turn right at the stoplight after you come out of the tunnel onto Capitol Way. Follow Capitol Way to State Street. The Olympia Center is just past this intersection on the left (light-colored 2-story building).

SOUTH SOUND EXOTIC BIRD SOCIETY

Pegg Bauer, Editor
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