

#### Newsletter of the International Society of Veterinary Ophthalmology September 2010

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#### [=ditorial]

#### Ethics in Veterinary ophthalmology

Competence without ethics is like a withering flower, showing some beauty at first glance that soon deteriorates. Respect of animal welfare, owners' rights and interests is mandatory for each of us. It may be accomplished only by:

- maintaining competence through continuing education
- knowing one's limits and asking for help whenever needed in the patient's interest
- keeping an accurate and truthful communication to the owner of the animal and the public
- providing realistic prognostic information and suggesting adequate therapeutic decisions
- avoiding unnecessary procedures and treatments
- accepting or requiring consultation whenever needed

It is our task to act in the interest of the animals and their owners, to prevent inappropriate decisions taken by others regarding the patient's treatment.

It's time to give more space to ethics, increasing the sense of responsibility of students, residents, practitioners, first of all by setting a good example.

Claudio Peruccio

### Letter from the ISVO President

This year, the International Society of Veterinary Ophthalmology (ISVO), which held its first congress in 1980 after being organized by esteemed ophthalmologists Dr. Bill Magrane and Dr. Claudio Peruccio, celebrates the 30th anniversary of its founding. I would like to take this opportunity to reiterate my respect and gratitude for Dr. Peruccio, who currently edits *Globe*. I'd also like to express my great pleasure that this Fall 2010 issue has been distributed worldwide.

It was my privilege to meet many dear friends at the São Paulo Congress in Brazil last July. I was also able to join Dr. Seo (of the University of Seoul in South Korea) as well as Board members Bob Munger, Loyd Helper, Bruce Robertson, Paulo Barros, and David Maggs in November in Chicago for a meal, where we discussed the fundamental plan for the ISVO meeting in fall 2011. I subsequently continued my discussions with Dr. Seo, and we have worked out the following details, although they remain tentative: the meeting will be held over the course of one day, from 10:00 am to 5:00 pm, and we have reserved one room for ISVO. The ISVO/WSAVA session in the morning will include the Magrane Memorial Lecture (we have not finalized the lecturer but are considering a number of veterinary ophthalmologists from Asia) as well as an address by Peter Bedford, chairman of the next Congress, and the ISVO General Meeting. In the afternoon, we are planning to hold ISVO/WSAVA/Asian veterinary ophthalmology joint meeting to commemorate the meeting's convocation in Asia, consisting of a series of lectures by speakers from South Korea, Taiwan, Japan, and other countries or a case conference or other event. We hope to finalize the program soon.

It has been an unusually hot summer for Dr. Maggs and myself, both in terms of Japan's searing weather and in terms of our exciting schedule. Between the lectures in Tokyo and Osaka that I had invited Dr. Maggs to deliver, we enjoyed sightseeing.



The lectures provided a satisfying opportunity to share valuable information with generalists and specialists alike. It goes without saying that it was our meeting in São Paulo last year that provided the chance for me to invite Dr. Maggs to visit Japan. I'm looking forward to meeting colleagues in San Diego in October and in Berlin next May, and to preparing for a successful congress on Cheju (Jeju) Island in 2011.

ISVO President Akihiko Saito



# Coming Events



2010 ACVO ANNUAL CONFERENCE
Paradise Point Resort & Spa
San Diego, CA, USA

#### October 6-9, 2010

The ACVO conference to be held in San Diego, California will have a little bit of everything for everyone. Located 15 minutes from downtown San Diego and right across the street from SeaWorld, the location has a lot to offer. Visit the facility website at: <a href="www.paradisepoint.com">www.paradisepoint.com</a> to view the location.

Visit <u>www.ACVOconference.org</u> for registration and scheduling details.

- Cutting edge scientific program for 15-20 CE
- General Practitioners' course in ophthalmology (8 CE hours).
- Practice management and genetics precongress courses for board specialists (~2 CE hours each).
- Post-congress, ERG wet-lab (8 CE hours).
- Meetings of International Equine Consortium and Vitreous Society.
- Resident/mentor networking, training and presentation opportunities.
- Roundtable workshops of peers.
- Welcome reception with private Shamu show at SeaWorld San Diego!
- Friday night gala among other networking opportunities.
- 60 vendor booths catering to veterinary ophthalmology.
- (All CE is RACE approved.)

#### MEMORIAL LECTURER:

The Memorial Lecturer will be Dr. Michael Robinson, Senior Medical Director of Ophthalmology Clinical Research at Allergan, Inc. He will be discussing the advances of ocular drug delivery.

#### PRACTICE MANAGEMENT & GENETICS:

Pre-congresses will include Practice Management 2-3 hours and Genetics 2-3 hours. They will not overlap so you could attend both on Wednesday afternoon prior to the opening reception.

#### ERG WET LAB:

One wet lab will be held on Sunday, this will be an ERG course. Up to 60 individuals will be allowed to participate in the lab and lecture section. A lecture-only AM session will be available also. ACVO/ECVO diplomates will be given first priority. Registration is currently open to all registrants. Speakers will be Dr. Ron Ofri and Dr. Kristina Narfstrom. Labs will be facilitated by Dr. Simon Petersen-Jones and Professor Vernon Odom of West Virginia University.

#### GENERAL PRACTITIONERS:

ACVO will host an 8 hour CE course on Saturday, October 9th for general practitioners.

#### ABSTRACT PRESENTATIONS:

Approximately 100-140 abstract presentations anticipated. Typically 30-40 will be in poster presentation format. The others would be presented in the resident session, the general session or special sessions such as the Vitreous or Equine meetings. Some breakouts will be offered on Friday during the conference.

American College of Veterinary Ophthalmologists ACVO Vision for Animals Foundation Ms. Stacee L. Daniel, MA, Executive Director PO Box 1311 Meridian ID 83680 Ph 208-466-7624 Fax 208-466-7693

Email: office10@acvo.org

www.acvo.org & www.visionforanimals.org

JOIN US AT AN ACVO CONFERENCE... San Diego, CA – October 6-9, 2010 Hilton Head, SC - October 26-29, 2011 Portland, OR - October 17-20, 2012



ANCLIVEPA
THE BRAZILIAN SMALL ANIMAL
VETERINARY ASSOCIATION
Goiana, Brazil, April 27 - 30, 2011



April 30, 2011, Room 5

08.30 - 09.20 - Uveítes nas doenças sistêmicas em case - Prof. Dr. José Luiz Laus

09.30 - 10.20 - Uveítes nas doenças sistêmicas em gatos - Prof. Dr. José Luiz Laus

11.00 - 11.50 - Vision in the Animal Kingdom Prof. Dr. Ron Ofri

12.00 - 12.50 - Cataracts: how do I treat, diagnose and refer them ? - Prof. Dr. Ron Ofri

14.30 – 15.20 - Assessment and examination of the blind patient - Prof. Dr. Ron Ofri

15.30 – 16.20 - Glaucoma: a blinding disease Prof. Dr. Ron Ofri

More details at: Anclivepa Goiania 2011



#### 2011 ECVO MEETING Berlin, Germany May 20 - 22, 2011

Following 2010's successful congress, the ECVO will once again meet in Berlin. Plans are being drawn up, work is in progress, so please put the following dates in your diary 20<sup>th</sup> - 22<sup>nd</sup> of May 2011.

Further details will appear at <a href="http://www.ecvoconference.org">http://www.ecvoconference.org</a>.

We look forward to seeing you there!



#### 2011 ISVO MEETING Jeju Island, South Korea October 14 - 17, 2011

The ISVO meeting in 2011 will be held in Jeju Island (a UNESCO world heritage site), South Korea, from October 14 to 17, 2011, in conjunction with the WSAVA World Congress.

Further details will follow in the next issue of The Globe.



# From the Congresses

#### From the 2010 ECVO MEETING

Berlin, Germany May 28 - 29, 2010

To let our readers have a taste of the Scientific Content of the meeting, a few selected abstracts from the Proceedings Notes have been included in this issue of The Globe.

## DETECTION OF ENCEPHALITOZOON CUNICULI IN THE LENS OF CATS

(<u>P Benz</u>, 1 J Csokai, 2 A Fuchs-Baumgartinger, 2 I Schwendenwein 2, A Tichy 3 and B Nell 1) Department for Companion Animals and Horses, Veterinary University Vienna; 1 Department for Pathobiology, Veterinary University Vienna; 2 Department of Natural Sciences, Veterinary University Vienna; 3

**Purpose.** To identify Encephalitozoon cuniculi (*E. cuniculi*) as a possible causative agent for cataracts and uveitis in cats.

Methods. From April 2009 on cats presented with focal anterior cortical or total cataract and secondary uveitis underwent a complete ophthalmic examination, complete blood work, serum biochemistry and serologic tests for FIV, FIP, FeLV and Toxoplasma gondii. PCR and cytologic examination of aqueous humour after paracentesis and of phacoemulsified lens material were also performed. In addition histopathologic examination (H&E and acid fast trichrome staining) of the resected anterior lens capsule and attached lens epithelial cells were carried out. Serologic testing for antibodies against E. cuniculi was performed in 80 ophthalmologically healthy cats

Results. 8 (14 eyes) European shorthair cats (4 castrated male and 4 spayed female) with a median age of 4.4 years were included in the study. 6/8 cats had bilateral cataracts, 9/14 eyes showed the typical anterior cortical cataract and 5/14 eyes a totally mature cataract. All of the cats had anterior uveitis with endothelial keratic precipitates. Creatinine was slightly elevated in 2/8 cats. All cats had a positive antibody titer (1:80 - 1:10000) for E. cuniculi. E. cuniculi DNA (strain II) was detected by PCR and sequencing in 14/14 lenses and in 8/14 aqueous samples. Only 3 tentative positive results were found on cytologic examination. Spores were detected in 12/14 lens epithelial cells with histopathologic stainings. Only 2/80 ophthalmologically healthy cats showed a positive antibody titer for E. cuniculi. Conclusion. E. cuniculi (strain II) is a cause of focal anterior cortical cataract and anterior uveitis in cats.

Support. None

#### DIAGNOSTIC IMAGING FEATURES OF CYSTIC LESIONS ASSOCIATED WITH THE LACRIMAL SYSTEM IN FIVE DOGS

(<u>R Drees</u><sup>1</sup>, SA Pot<sup>2</sup>, E Bentley<sup>1</sup> and T Schwarz<sup>3</sup>) University of Wisconsin-Madison, VMTH Department of Surgical Sciences, 2015 Linden Drive, Madison, WI 53706, USA<sup>1</sup>; Department für Pferde, Abteilung Ophthalmologie, Vetsuisse-Fakultät Universität Zürich, Winterthurerstrasse 260, CH-8057 Zürich, Switzerland<sup>2</sup>; Department of Veterinary Clinical Studies, Royal (Dick) School of Veterinary Studies, The University of Edinburgh, Easter Bush Veterinary Centre, Roslin, EH25 9RG UK.<sup>3</sup>

<u>Purpose.</u> Cystic lesions associated with the lacrimal system arise from the lacrimal canaliculi (canaliculops) or nasolacrimal duct (dacryops) and need to be differentiated from other periorbital cystic lesions such as periorbital epidermoid cysts, epithelial cysts of the maxillary bone and other cysts of the frontal sinus and nasal cavity. Knowledge of the diagnostic imaging features is essential in diagnosing this rare condition.

<u>Methods.</u> Five dogs underwent diagnostic imaging (radiography, computed tomography or magnetic resonance tomography) of the head and a cystic lesion associated with the lacrimal system was diagnosed.

Results. Radiographically lesions demarcated characterized as well round radiolucencies in the infraorbital area. Evaluation of CT and MRI images showed that lesions were located along the path of the lacrimal duct. The maxillary bone was thinned or partially absent medially and laterally to the lesion. There was no contrast enhancement of the cyst lumen in any case, in two cases mild enhancement of a very thin rim of the cyst was present. The tissue of origin could not be definitely determined based on either imaging modality.

<u>Conclusion.</u> Radiography facilitates detection of a characteristic cystic lesion, however CT and MRI accurately determine the presence of a cystic soft tissue lesion, its anatomic location and extent, and association with the lacrimal system. Anatomical location remains the most important consideration for differential diagnosis of dacryops and canaliculops.

Support. None

# THE PATHOLOGY OF PRIMARY CANINE GLAUCOMA WITH EMPHASIS ON EARLY CHANGES

(Dubielzig RR) School of Veterinary Medicine, University of Wisconsin, Madison WI

<u>Purpose.</u> The study points out aspects of the morphologic changes seen in canine glaucoma associated with goniodysgenesis (primary glaucoma) with an emphasis on the changes seen in the first few days following the recognition of eye disease by the client.

Methods. Case material from the Comparative Ocular Pathology Laboratory of Wisconsin is used. The collection contains 19,842 canine submissions with 1.654 cases of primary glaucoma. All are stained with cases Hematoxylin and Eosin and selected cases are with **BluePAS** stained Alcian or immunohistochemistry for GFAP, MHC2, Neurofilament.

Results. Compared to normal eyes, the second eye from a dog with glaucoma diagnosed in the contralateral eye but not yet in the sampled eye, there is already a mild decrease in ganglion cells, an over-expression of GFAP, and an over-expression of MHC2 staining phagocytic cells in the retina. In the first 48 hours after the owner recognizes a red eye, there is a sharp loss of ganglion cells by a process of necrosis followed in 2 to 5 days by profound apoptosis and full-thickness retinal atrophy. Furthermore the optic nerve head shows acute necrosis followed by malacia at about 3 days.

<u>Conclusions.</u> These findings support the idea that there is a gradual degeneration with glaucomatous retinal and optic nerve changes that happens without the owner noticing, followed by a catastrophic event characterized by red eye, and ganglion cell necrosis. This early stage is followed by full thickness retinal apoptosis and optic nerve head malacia. By 7 days after the owner recognizes a red eye, there is already end-stage retinal atrophy and optic nerve cupping.

# BLEPHARITIS AND MEIBOMIAN GLAND DYSFUNCTION-LIKE SYNDROME IN DOGS - HISTOLOGIC EVIDENCE OF A CLINICALLY NECLEGTED HOT SPOT

(JC Eule 1, A Schleicher-Przytarski 1, O Kershaw 2, E van der Grinten 2 - Ophthalmology Unit 1, Department of Veterinary Pathology 2, Faculty of Veterinary Medicine, Freie Universität, Berlin,

Germany

<u>Purpose.</u> In the literature, little information is available about the general health of the eyelid margin and meibomian glands in dogs. Therefore,

the aim of this study was to investigate the general health of canine eyelids

and meibomian glands.

<u>Methods.</u> Eyelids of 48 dogs without macroscopic evidence of ocular diseases. Formalin-fixed specimens obtained from samples taken parallel to the conjunctiva and vertical to the eyelid margin were embedded in paraffin, H&E stained serial sections were

evaluated histopathologically.

Results. 31/48 (64.6%) of the dogs showed signs of inflammation. 20 animals were affected bilaterally, 11 unilaterally. Blepharitis (Ble) alone was seen in 1/31, meibomitis (M) in 9/31, perifolliculitis (PFol) in 3/31, conjunctivitis (C) in 4/31, a combination of M + PFol in 9/31, a combination of M + PFol in 5/31 animals. Meibomian adenomas were detected in 3/48, dermal melanocytoma in 2/48, and demodicosis in 1/48 dogs.

All four criteria defined for meibomian gland dysfunction (MGD) in humans (atrophy of the acini, dilatation, hyperkeratinization and retention of secretion within the ducts of the meibomian gland) were obtained in 18/48 animals (37.5%). 22.9% of all dogs were affected in one eyelid, 8.3% displayed changes in both, and 6.3% within three eyelids (unclear). Animals showing histological evidence for MGD were more likely to show also signs of inflammation (14/18, 77.8%) compared with animals not matching criteria for MGD (17/30,

56.7%). There was no age- or gender-relation.

<u>Conclusions.</u> The eyelid margin seems to be a hot spot for inflammation. Furthermore, the histological findings suggest a MDG-like syndrome to be a common lesion in dogs. The clinical relevance of these changes is not fully understood, and needs to be examined in further studies.

Support. None

# SLOWLY PROGRESSIVE ROD-CONE DEGENERATION IN THE SHETLAND SHEEPDOG

(L Karlstam1, CJ Zeiss2, E Hertil3, RR Dubielzig4 and B Ekesten5)

Referral Animal Hospital Strömsholm, Strömsholm, Sweden1; Section of Comparative Medicine, Yale University of Medicine, New Haven, CT, USA2; University Animal Hospital, SLU, Uppsala, Sweden3; Department of Pathobiological Sciences, University of Wisconsin, Madison, WI, USA4; Department of Clinical Sciences, SLU, Uppsala, Sweden5

**Purpose.** To study a spontaneously occurring, slowly progressive rod-cone degeneration

(SPRCD) in related Shetland Sheepdogs (Shelties) in Sweden.

Methods. Shelties were routinely screened for hereditary eye diseases in a health program. The examination included direct and indirect ophthalmoscopy and slit-lamp biomicroscopy after dilating the pupils with tropicamide. Electroretinograms (ERGs) were performed under isoflurane anaesthesia in 12 dogs with SPRCD and 6 normal Shelties. Two Shelties with abnormal ophthalmoscopic appearance and abnormal ERGs were euthanized and the eyes were examined by light- and transmission electronmicroscopy.

Results. Ophthalmoscopic examination revealed bilateral, grayish, hyporeflective areas in the peripheral and midperipheral tapetal fundus with either normally appearing retinal vessels or slightly attenuated peripheral vessels in 40 related Shelties (17 males, 23 females; aged 2.5-13 years) between 2001-2010. The hyporeflective areas were symmetrically distributed between the eyes. Reexamination of 15 dogs after 6 months to 4 years showed that the ophthalmoscopic changes slowly spread across the central parts of the tapetal fundus, but did not progress to obvious neuroretinal thinning presenting as tapetal hyperreflectivity and did not cause obvious visual impairment. The ERGs of SPRCD dogs either fell within normal limits (4 dogs) or showed subnormal, marginally delayed rod responses, whereas the cone responses were better preserved (8 dogs). Loss of rod and cone nuclei, photoreceptors displaced into the subretinal space and reactive gliosis were seen on LM and TEM. The superior central retina was more affected than other areas. DNA-testing for prcd/PRA in 3 dogs with SPRCD was negative.

Conclusions. We describe a slowly progressive, rod-cone degeneration in a group of related Shelties in Sweden. The appearance of the tapetal fundus in SPRCD is similar to early-stage progressive retinal atrophy (PRA). The slow progression and recordable rod ERGs in old dogs clearly show that this is different from prcd/PRA. The condition is likely to be inherited given the close kinship between the affected dogs.

**Support.** Financial support was received from Agria Animal Insurance Company.

### MULTIFOCAL RETINAL DEGENERATION IN THE BORDER COLLIE

(<u>DS Kjær</u> <sup>1</sup>, M Haaland<sup>1</sup>, KW Prestrud<sup>2</sup>, EO Ropstad<sup>3</sup>, E Bjerkås<sup>3</sup>) The Small Animal Clinic; 1, Norwegian Kennel Club; 2., Norwegian School of Veterinary Science; 3.

<u>**Purpose.**</u> Multifocal retinal degeneration has been described in the Border collie. The aethiology

has not been confirmed, reported aethiologies ranging from chorioretinitis through *Toxocara canis* invasion, stress related retinopathy to a hereditary retinal degeneration with an X-linked mode of inheritance. The purpose of the study was to investigate possible epidemiologic factors that can be associated with chorioretinal damage in examined Border collies.

Methods. During the period 2005-2009, 326 Border collies in Norway underwent ophthalmoscopic examination. 62 dogs were examined more than once with approximately one year intervals. The majority of the dogs were working dogs, used for sheep herding. The owners were asked to fill in a questionnaire regarding anthelmintic treatment, feeding, use of the dogs, access to sheep feed and cohabitation with sheep. Blood analysis of antibody titers for Toxoplasma gondii was performed in 34 dogs, 14 affected with retinal disease, and 20 normal.

Results. 91 of 326 dogs, 81 males and 10 females were affected with varying severity of multifocal retinal disease. Lesions varied from bullous retinopathies to focal or generalized retinal degeneration, frequently with secondary pigmentation. Two out of six dogs with initial bullous retinopathies were re-examined, with lesions found to progress to focal degenerations. No environmental related reasons for the retinal changes were confirmed in the dogs. Five of the dogs examined for Toxoplasma gondii antibodies showed elevated titers, of these three had normal retinas on ophthalmoscopic examination. One dog had the antibody titer measured twice, with elevation on the second examination, but with no retinal lesions on either examination.

Conclusions. The epidemiologic study did not show any causal factors explaining the retinal disease. Thus, the cause of multifocal retinal degeneration in the Border collie has still not been determined, although a hereditary factor is likely. The finding of initial bullous changes may the indicate presence of serous chorioretinopathy progressing to focal complete retinal degeneration in this breed. Supported by Dyreidentitet., Rogaland sau-og geitalslag and Stiftelsen Astrid og Birger Torsteds legat.

Support. None

# DESCRIPTION OF A PERILIMBAL POCKET TECHNIQUE FOR SURGICAL REPLACEMENT OF PROLAPSED NICTITANS GLAND IN THE DOG

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<u>Purpose.</u> To describe the long-term success rate, ease and complications of a new technique for replacement of the nictitans gland in dogs. To evaluate breed, sex and age distribution of the canine population studied, the prevalence of unilateral versus bilateral gland prolapse, and age of onset of the initial prolapse.

Method. Twenty-four dogs (34 eyes) with prolapse of the nictitans gland, presented to the Veterinary School of Liege Ophthalmology service between January 2006 and February 2010 were included in the retrospective study. The procedure consisted in making two conjunctival incisions: the first one, 2-4 mm behind and parallel to the ventronasal limbus, the second one 3-4 mm behind and parallel to the free border on the bulbar surface of the third eyelid. The gland was returned to its normal position by suturing the third eyelid incision to the ventral subconjunctival and episcleral tissues, using an interrupted horizontal mattress pattern with absorbable Vicryl 6.0, taking care to bury the suture knots. Extended follow-up of the patients was achieved by ophthalmic examination (13/24), or by telephone contact to the owner (11/24).

Results. The English Bulldog, Neapolitan Mastiff and American Cocker Spaniel were the most common breeds represented. 91.3% of the dogs were under one year of age at the time of diagnosis, and 58.3% of cases suffered from unilateral gland prolapse. In the three dogs in which the condition was bilateral but non-simultaneous, the opposite gland prolapse occurred within 2 months. Mean follow-up time was 11.1 months. The success rate of the procedure was 87.5%. In the dogs reviewed by eye examination, Schirmer tear test-1 values and slit lamp examination of the cornea were within normal limits.

<u>Conclusions.</u> This procedure successfully maintained the nictitans gland in its normal position in small, medium and large breed dogs, despite restricted mobility of the third eyelid.

Once mastered, the technique was easy to perform. Tear production and excretion were not affected throughout the length of the follow-up period.

# News in Short

#### Oslo, Norway, September 1, 2010

Kristina Narfström received a Diploma of Honorary Doctorate from the University on occasion of the celebration of the Norwegian Veterinary School's 75<sup>th</sup> year at the presence of the Norwegian King.



The Veterinary School Rector, Dr. Yngvild Wasteson, giving a presentation in regards to Kristina's accomplishments



The Norwegian King, Harald, in the front row, listening to the presentation



XXII CONGRESO PANAMERICANO DE CIENCIAS VETERINARIAS

#### September 1-4, 2010, Lima, Peru

The XXIInd Congreso Panamericano de Ciencias Veterinarias (PANVET) was held in Lima, Peru. Lectures on Veterinary Ophthalmology (Emergencies and Ocular Manifestation of Systemic Diseases and Corneal Surgery and Adnexas) and a wet lab (Adnexas Surgery) were presented by Prof. Jose Laus and Prof. Peter Bedford.



#### **ISVO EXECUTIVE COMMITTEE ADDRESSES**

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## Useful e-mail addresses

American College of Veterinary Ophthalmologists (ACVO): <a href="https://www.acvo.org">www.acvo.org</a>

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European College of Veterinary Ophthalmologists (ECVO): www.ecvo.org

European Society of Veterinary Opthalmology (ESVO): www.esvo.org

Japanese College of Veterinary Ophthalmologists (JCVO): <a href="https://www.jscvo.jp">www.jscvo.jp</a>

British Association of Veterinary Ophthalmologists (BrAVO): www.bravo.org.uk

European School for Advanced Veterinary Studies: www.esavs.net

Continuing Education Courses in the United Kingdom: <a href="www.bsava.com">www.bsava.com</a>

International Veterinary Information Service (IVIS): www.ivis.org

LatinoAmerican College of Veterinary Ophthalmologists: www.clov.org

Nice home page in German: www.augentierarzt.at



#### NOTE FROM THE ISVO TREASURER

"To join ISVO, please contact the Treasurer, David Maggs, at <a href="maggs@ucdavis.edu">djmaggs@ucdavis.edu</a> for an application form. The current dues are US\$ 20 which guarantees the initial 2-year membership. Currently there is no renewal fee after the member's first 2 years expire; however this is subject to revision."

David Maggs Treasurer ISVO



ISVO will continue to e.mail TheGlobe for free twice - three times a year. If you don't want to receive it, if you like to change e.mail address or add more addresses, please e.mail a note to info@retvetcorp.com

