



The HARCC Herald

SUMMER 2023

THE ULTIMATE GOAL:

Healthy, Happy Pet Birds



How It All Started

David Nusbaum was a devoted caretaker of his beloved umbrella cockatoo, Snowflake. When he passed away at age 53, David wanted to help make lives better for exotic pet birds and their owners. Dr. Greg Harrison was one of the beneficiaries of funds to be “devoted to avian research.” Thus, HARCC became a vision to pursue.



A group of interested avian practitioners gathered over lunch during the 2022 ExoticsCon conference in Denver to discuss the incorporation of Harrison Avian Research and Conservation Collaborative (HARCC). Under the leadership of Dr. Bianca Zaffarano, the group went through prepared documents line by line to finalize the statement that would be submitted to the Minnesota Secretary of State for application as a nonprofit corporation. Present were: Drs. Bianca Zaffarano, Greg Harrison, Manfred Hochleithner,

Claudia Hochleithner, Carolyn Cray, Tia Greenberg, Ken Welle, and Teresa Lightfoot, as well as Linda Harrison, Paco Lightfoot and Pat Sauer. HARCC is appreciative of the early involvement of these key avian practitioners and others. Besides its commitment to defining and solving challenges relevant to avian clinicians through research and conservation funding, HARCC supports an environment that encourages new ideas and new approaches to avian research that drive advances in avian care.



The current Board of Directors for HARCC consists of Dr. Greg Harrison, President; Linda Harrison, Secretary-Treasurer; and Dr. Manfred Hochleithner, Board Member. Shown also from the 2022 ExoticsCon conference in Denver is Dr. Claudia Hochleithner.



What's in it for Me?

Below are INTERPRETIVE SUMMARIES from recipients of the five inaugural research grants on how their projects will benefit avian practitioners.

- Joerg Mayer, Dr med vet, MSc, DABVP (ECM), DECZM, DACZM, DACEPM
Investigation: Using Bee Venom to Treat Avian Patients

“The use of bee venom to treat a multitude of pathologies has been well described in human medicine. However, there is a significant lack of scientific data regarding the use of bee venom in the veterinary field. We often have avian patients presenting with conditions that could be treated by bee venom based on the data extrapolation from human medicine. Often these patients are not good candidates for western medicine options like chemotherapy or surgery. Apitherapy (bee byproducts) is often

readily available and cheap for the practicing veterinarian, and it can be easily applied with minimal training. This study has the potential to offer a novel form of treatment for a variety of pathologies in avian patients in even the most remote areas. So far, the results are very promising, and the owners are very much on board with it, which is encouraging. My smallest cancer patient is a cockatiel that weighs 80 gms.”



- Scott Echols, DVM, DABVP (Avian)
Using the Scarlet Animal Preservation System for In-depth Study of Avian Surgical Anatomy and Procedures

“My goal with research is to make it translatable to the clinician and ultimately the patient.”

Current Avian Projects:

- * Domestic duck anatomy
- * Grey parrot anatomy
- * Avian cranial nerve imaging
- * Penguin anatomy
- * Australian bird synchrotron imaging
- * Surgical training program



Blue and Gold Macaw Vascular map
BriteVu® Scarlet Imaging



- Hugues Beaufrère, DVM, PhD, DACZM, DABVP (Avian), Dip ECZM (Avian)
Effects of Deslorelin Acetate Implants on Blood Lipids and Lipoproteins in Female Cockatiels (*Nymphicus hollandicus*)

“Reproductive-associated dyslipidemia is common in female psittacine birds and may lead to other lipid-related disorders such as atherosclerosis and hepatic lipidosis. Deslorelin acetate implants are used as a first line of treatment for dyslipidemia in female birds. However, the lipid-lowering effects of deslorelin have not been characterized. The cockatiel is the ideal species for this research, given the high prevalence

of reproductive-associated dyslipidemia and the availability of pharmacodynamic data on deslorelin. Since the response to deslorelin can vary among individuals and may depend on reproductive status, it is crucial to also correlate the observed hypolipidemic effects to plasma concentrations of reproductive hormones.”



- Hugues Beaufrère, DVM, PhD, DACZM, DABVP (Avian), Dip ECZM (Avian)
Evaluation of Potential Antemortem Diagnosis of Psittacine Atherosclerosis

“The technique (micro-Positron Emission Tomography (μ PET) scan) is a research technique to be able to visualize microcalcification in atherosclerosis lesions antemortem in parrots. The

plan is to develop the technique to then use it to test the diagnostic usefulness of other imaging techniques (such as CT-scan and standard radiographs), to evaluate risk factors (such as blood lipids) and to test treatments (such as statins). At present, atherosclerosis is very hard to diagnose antemortem without having either very severe lesions or having a necropsy.



While PET-scan as a diagnostic tool is not widely available, CT-scan and radiographs are, and many avian practitioners use those to assess the arteries of parrots. Likewise, avian practitioners



use blood lipoprotein testing and prescribe statins for the treatment of atherosclerotic diseases or related disorders. Results obtained from studies using molecular imaging such as PET-scanning to investigate the pathophysiology, diagnosis, and treatment of atherosclerosis would directly be usable by practitioners. Examples include expanding our knowledge on the sensitivity of standard CT-scan or whole-body radiographs for diagnosing atherosclerosis and lipoprotein abnormalities associated with these lesions.”



• Nicola Di Girolamo, DVM, PhD, Dipl ACZM, Dipl ACVPM, Dipl ECZM
TSH - Stimulation Test with Fresh and Frozen Commercially Available TSH in Quaker Parrots (*Myopsitta monachus*)

“The purpose of the present study is to develop an antemortem test for diagnosis of hypothyroidism in parrots with a drug that is currently commercially available. For this reason, we opted to evaluate the effects of intramuscular injection of recombinant human TSH on plasma T4 concentration in healthy quaker parrots.



Although TSH stimulation test has been described in the past in birds, it is not commonly used in avian practice. As such, many hypothyroid birds are currently undiagnosed. For this test to become more widely used, we need to find a more affordable way of carrying it out. For this reason, we are working on using frozen drug; that way even clinicians who see birds less often will be able to use a single vial for multiple patients. We are also including a group that will receive a very small volume of TSH in order to try to find the smallest



possible dose that would work in parrots and make this test even more affordable.”

What's Next?

Approved for the next round of grants: Dr. Joerg Mayer – Investigation of Side Effects of Using Intravenous Honey Infusion Therapy to Treat Avian Veterinary Patients



Dr. Jan Hooimeijer



Dr. Jan Hooimeijer



HARCC
Harrison Avian Research & Conservation Collaborative

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Do you have a proposal or an idea for a research project relevant to avian clinicians? Send an email requesting further information to dperez@harccresearch.org.