The Vasa Parrot as a Research Subject

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INTRODUCTION AND SETTING

This proposal to the Hawaii Department of Agriculture asks for the allowance of a Vasa Parrot *(coracopsis vasa)* to reside with Lise Madson in Hawaii for research purposes. The attached document addresses the research goals of this team. To summarize, this research team believes that the Vasa is an excellent research subject for a multitude of reasons ranging from abnormally high cognitive ability (such as tool use) to unique social behaviors (polygamy and low male-male aggression). The Vasa is an excellent target for expanding Tellington Touch (TTouch) training both for rehabilitation purposes and for research purposes.

The research team envisions a set of programmatic longitudinal studies that may run adjacent to and with the work of Irene Pepperberg and the Alex Foundation. Expanding the findings of their work such as visual working memory studies, from African Greys out to Vasa parrots is an amazing opportunity and hugely beneficial to the world of avian research. This research tackles challenges, differences, and new findings that may comes with a new but similar species. There is a growing literature on convergence in gene activity in brains of humans and parrots that these proposed studies would add to, and that may additionally inform further research.

Lise Madson will act as caretaker and primary data collector at this time. She has experience both with a wide range of animals and with implementation of TTouch. The Vasa parrot currently resides in Oregon and due to restraints on safe travel back and forth due to COVID-19 we are requesting permission to move the Vasa to Lise's residence where our team can continue to work on the proposed projects and to plan future work. Lise additionally has years of TTouch work with a variety of animals including this Vasa.

This proposal is requesting no funding for these projects. This research is being conducted by a team voluntarily out of commitment to scientific exploration and to the expansion of TTouch, founded by Linda Tellington-Jones, who is also a resident of Hawaii.

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Current understanding of cognition has been deeply informed by animal studies ranging from the 34 years of studies of Bottlenose Dolphins at the Kewalo Basin Marine Mammal Laboratory in Honolulu to the studies of food caching in corvids, wherein they store food in hiding spots to return to later. The understanding of communication and reasoning has been transformed from the anthropocentric view of "strictly human" to a much more nuanced and gradated understanding throughout the animal kingdom. Within the past century, our understanding of animal communication has spanned not only our closest relatives evolutionarily, but to those quite distant such as the studies of Alex, an African Grey parrot *(Psittacus Erithacus).* These studies, conducted by Irene Pepperberg and spanning multiple decades (Pepperberg, 2009) provided a wealth of information on avian intelligence and on human cognition. The field of cognition, particularly that of animal cognition, is growing wildly and African Greys have been an effective choice for that research. It may be easy to conclude that the Alex studies have come and gone, and perhaps left an influential mark, but are effectively completed. Pepperberg has demonstrated that research is continuing directly in this line, such that there are studies of probabilistic learning, numerical cognition, symbolic communication, and visual working memory (See https://alexfoundation.org/about/dr-irene-pepperberg/ for an up to date list of research).

The African Grey has demonstrated a strong ability for cognitive reasoning as well as for laboratory training. It is of the utmost importance to demonstrate a generalizability in these matters, not just to human cognition but to draw connections throughout the animal kingdom. Perhaps the grey is of abnormally high intelligence for parrots and therefore an interesting candidate for research. A relative of the African Grey, the Vasa parrot *(coracopsis vasa)* has demonstrated cognitive capability through both linguistic capability and spontaneous tool use but

remains absent in the literature and in laboratory training. Vasa's have been among only two other parrot species to demonstrate tool use outside of a lab setting (Lambert, Seed, & Slocombe, 2015). Vasa's offer an interesting opportunity within the parrot family; While Grey's demonstrate language ability, they lack tool use. Other avian species such as Corvids demonstrate tool use but lack language ability. The Vasa demonstrates both in nature, however, there has been little follow up research to confirm or expand upon the capabilities of the Vasa. To date, much of the research on the Vasa focuses on their abnormal, polygamistic breeding behaviors (Ekstrom, Burke, Randrianaina, & Birkhead, 2007).

This lack of research indicates two major issues. Primarily, the Vasa has demonstrated what would otherwise be considered a rare cognitive ability in tool use. Additionally, we may see that our research on cognition in birds has been historically adjacent of a useful research subject. The songbird has been the standard for understanding how language develops and how the brain processes and understands utterances (Saito & Maekawa, 1993). The parrot may be a strong, adjacent template for basing our language progression evolutionarily, as studies have shown additional functionality of parrot communication in the wild in social contexts for food (Bradbury & Balsby, 2016). This in mind, Vasa's may offer fruitful research opportunities as they have linguistic capability as well as have shown spontaneous tool use.

Secondly, there may be an overreliance on one model for avian (parrot, specifically) intelligence in the African Grey. This is not to assert that the African Grey research is unfounded or invalid due to a lack of generalizability across parrots, but rather that the opportunity to generalize across parrots and other evolutionarily related species has been missed. There may be unique challenges, differences, or new findings that come from exploring these same questions on a new, but similar species.

On Bonding

The type of intelligence displayed by the Vasa is markedly different from that of African Greys, but important, nonetheless. This difference is not only apparent in what we might call problem solving cognition, but in social cognition as well, where Vasas demonstrate much less male-male aggression. This social intelligence is a core part of research with parrots, as the bond established between a bird and its researcher(s) is critical to the training and subsequent testing of the animal. With a new species of parrot, new challenges arise in establishing a bond, but new techniques have also become available. Among these is Tellington Touch (TTouch) (Tellington-Jones & Taylor, 2008). TTouch is a form of gentle physical touch originally implemented in the training of horses. However, the use of TTouch has spread to all sorts of pets and has even shown positive clinical outcomes for human to human use (Wendler, 2003). In part, these outcomes in both humans and animals may be due to increased oxytocin production, which is frequently coined the "love hormone" due to its release during physical touch. Use of the TTouch methodology may stimulate this oxytocin production. Oxytocin is replaced by mesotocin in birds (Jonaidi, Oloumi, & Denbow, 2003) though this seems to effect behavior in a manner like that of oxytocin in mammals (Duque, Rasmussen, Rodriguez, & Stevens, 2020). TTouch likely operates through a neurological mechanism of safe contact that increases oxytocin (or mesotocin) production, thereby increasing feelings of bonding, safety, and companionship, which in turn brings about more physical contact.

This sense of safety and companionship is important not just for the research subject but for the handler as well. Research from as early as the 80s has demonstrated human health benefits from interaction with a bonded animal (Friedmann, Katcher, Lynch, & Thomas, 1980; see also Baun, Bergstorm, Langston, & Thoma, 1984). In these studies, researchers demonstrated

increases in heart health for both typical adults and those recovering from heart conditions such as angina pectoris and coronary heart disease. By creating a pair bond with an animal, individuals can indirectly increase their physical well-being. Friedmann et al. (1980) go on to discuss the comorbidity of mental health issues that arise with these physical ailments, and decreasing one correlates with decreasing the other. These effects have been shown to be long lasting, and not simply small effects that fade after the interaction (Gayarthi & Priscilla, 2018).

TTouch offers an excellent opportunity to practice this bonding technique on a less common animal in birds. By establishing a bond through TTouch with a Vasa, health outcomes for the human participant can be measured for additional mental health and physical health outcomes. In addition, establishing a proper TTouch study with a member of the parrot family will expand and benefit the TTouch literature. This study expands the literature of TTouch on birds (generally performed on Cockatiels) while also providing a comparative study of different methodologies and patterns in bonding.

The Current Study

The current study aims to address multiple tasks through a set of experiments ranging from expanding TTouch to recreation of the Alex studies with a Vasa parrot. Our research will center on a single subject that will live with one researcher for the duration of the studies. These studies will span years and provide a wealth of data on multiple different systems.

In the first study, researchers will aim to establish the bidirectional benefits of TTouch on human and Vasa parrot. TTouch is a strong adjunct to traditional quality time bonding by creating not only increased comfort with the paired individual, but by enhancing sensory processing and further engaging focus for the recipient. As TTouch is a well-established method,

it will be beneficial to further document the effects it has in human-animal use for both members as well as to note differentiations needed between species; both distal (horse) and close (Cockatiel). This TTouch experiment will include an outcome of strong pair bonding between human and subject Vasa. This will also be recorded, creating TTouch training materials that be given to the TTouch Foundation as materials to be posted. This TTouch research is beneficial in a bidirectional manner. To one end, it allows for research to investigate how TTouch benefits an animal that is under-researched. To the other, information about how TTouch may aid Vasa parrots or other avian species is hugely beneficial for aiding individual birds with maladaptive behaviors. Many of these birds are mistreated and form antisocial behaviors both toward humans and other birds. Establishing a form of therapy to alleviate these behaviors can target a critical need and begin working toward solving this issue.

With this relationship established, the Vasa will begin training on a match to sample (MTS) task. An MTS task is such that if you hold up a red ball, and there are a red, green, blue, and yellow ball to choose from, the subject should choose the red ball. Training will begin with 2 presented options and advance up to 3 and finally 4. This training will be of interest to researchers as the Vasa subject does not have trained color concepts. This should make working memory storage of these concepts more difficult and provide new information, as similar studies in parrot visual working memory use African Greys that are color trained (see Pailian, Carey, Halberda, & Pepperberg, 2020). Expanding on this work allows for a separate point in avian intelligence to compare to and allows for understanding of how the visual working memory system functions in the absence of object labels.

To complete this expansion, it will then be necessary to teach the subject the rules of the "shell game." In this game, objects (such as different color balls) will be presented for

memorization and then covered by cups. These cups will be shuffled around the table, and the subject will be asked to match to a presented sample. As the presentation of the sample occurs after the color-location memorizations, the subject will need to track all swaps that occur rather than to "keep an eye on the prize" as is the more common occurrence of the game.

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Attachment 2

Tellington TTouch Training®

horses, companion animals & humans

Letter of Lise Madson's Affiliation with TTOUCH
Date: July 16, 2019

State of Hawaii
Department of Agriculture
PLANT QUARANTINE BRANCH
1849 Auiki Street, Honolulu, HI 96819-3100

Dear Hawaii Board of Agriculture,

I am Linda Tellington-Jones, founder of Tellington TTOUCH Training. The Tellington Method is currently being used by animal owners, trainers, breeders, veterinarians, zoo personnel and shelter workers on four continents. There are over 1600 certified Tellington practitioners teaching the Tellington Method in 36 countries.

I have written 22 books about TTouch, which have been printed in fifteen languages.

I am the 2019 Recipient of the Torch-Bearer Award for Peace for lifelong devotion to the development of a heart-based method that nurtures a unique, peaceful connection between animals and people, 2008 Honorary Doctorate degree from Wisdom University, ARIA Teacher of the Year for the American Riding Instructors Association, 2007 Inductee into the Massage Therapy Hall of Fame,1994 Horsewoman of the Year Award from North American Horseman's Association, 1992 Lifetime Achievement Award from the American Riding Instructors Association, and 1969 Award for Creative Citizenship from the State of California.

Over the years there have been dozens of studies looking at the effectiveness of the Tellington TTOUCH Method, and its principles, with some fantastic results: These include: Lowering Stress Levels in Cattle, 2008; , Reducing Avoidance and Stress in Cattle, 2012; Effects of TTouch on Dog Behavior 2003; Integrating the Tellington TTOUCH Method in Guide Dog Training, 2013; Horse Stress Reduction Study, 1985; EPM Horse Neurological Study, 1999; Horse Trailer Loading Study, 2001; Horse EEG Study of Equine Brain Waves, 2006; Immediate Benefit of TTouch Reflected in EEGs of Horses, 2009; TTouch Positive Results Documented in Horses, 2013; Horse and Human Mind Mirror Study, 1987; Is Tellington TTouch Nursing? Human Study, 2000; Youth, Nature and Critters, Human Study, 2000; Nursing Study, 2003; Therapeutic Intervention Study, Humans, 2003; Changing the World One TTouch at a Time, Human Study, 2007; TTouch for Traumatic Brain Injuries, 2007; Therapeutic Use of Tellington TTouch for Fibromyalgia, 2008; TTouch for Healthcare, 2008; Preliminary Tellington TTouch Study at the International Institute of Biophysics, 2009; Well-Being Study, Humans, 2010; Impact of TTouch Pain Severity of Patients with Angina Pectori, Humans, 2017.

Lise Madson has been affiliated with TTOUCH for almost 6 years. Lise Madson has done social media, videos, photography, and writing for TTOUCH, as well as assisting me in trainings. Madson is a talented writer and is working on two books about TTOUCH. We are looking forward to the books and her research results on the effect of TTouch on the Behavior and Well-Being of Vasa Parrots.

Lise has unique connections with certain animals. She has worked with rescue parrots and Grover, a Vasa parrot, was a rescue. Madson has used TTOUCH to rehab the parrot from a biting, distraught, isolated bird, to bird that appears well adjusted, healthy, content, interactive and that no longer shows stress behaviors. Madson's book on TTOUCH relies on interactions and working with her skills with TTOUCH on Grover, the Vasa parrot, to show which TTouches work best on the Vasa parrot. Her research on TTouch with the Vasa Parrot will help further the science of the effectiveness of TTOUCH.
Madson and her Vasa parrot are affiliated with the Tellington TTOUCH Training, and we look feel that Madson and her work with the Vasa Parrot are important to this organization. I join Lise in asking that her permit for this parrot be expedited.

Sincerely, Linda Tellington-Jones

Linda Tellington-Jones PHD (Hon)

Linda Tellington-Jones, Founder
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WORLDWIDE - Austria, Germany, Italy, Netherlands, South Africa, Switzerland, United Kingdom
www.TTouch.com


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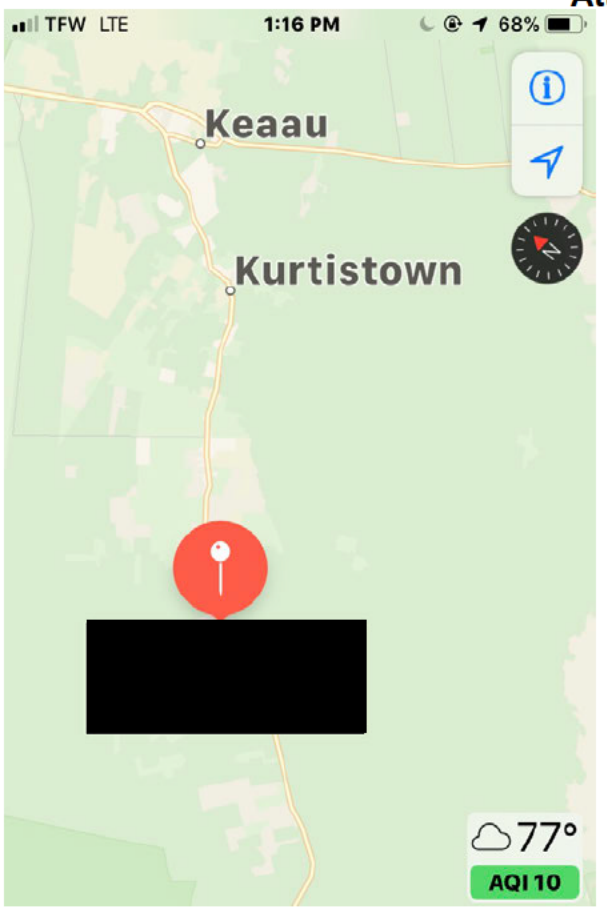
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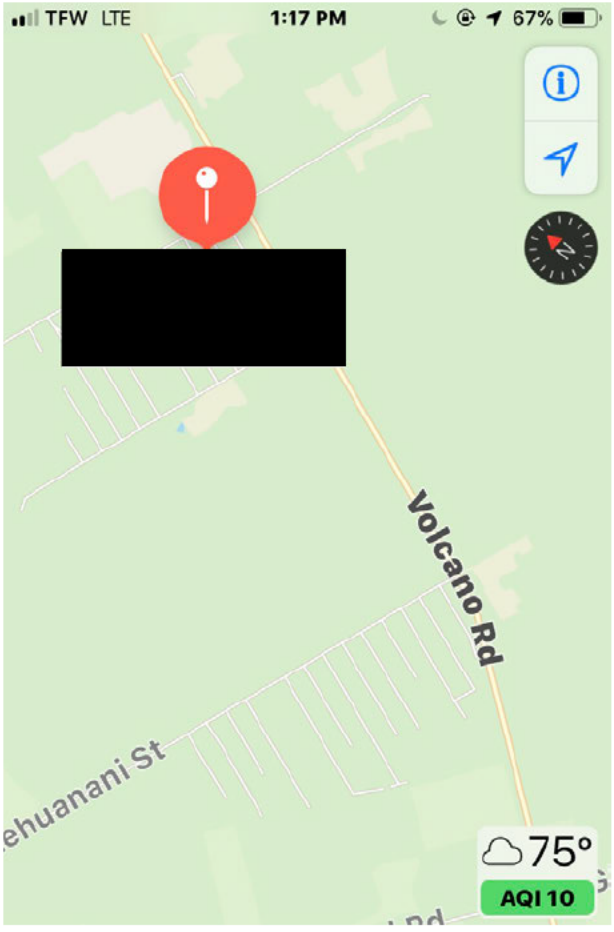
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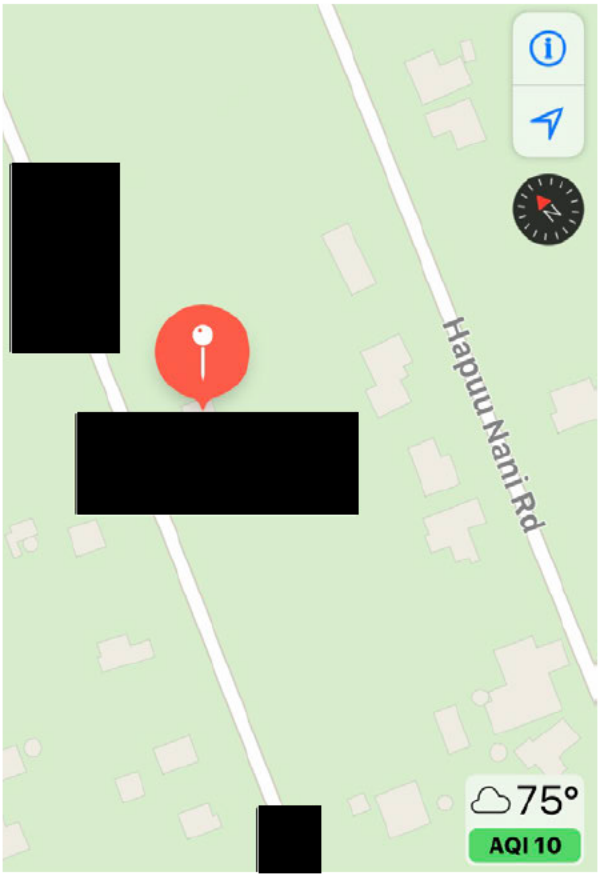
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Vasa Parrot TTOUCH Research Project Safety Manual

Description: One Vasa parrot will be used for this project. A Vasa Parrot is similar to an African Grey parrot in size, but with a longer tail.

Security assessment. The Vasa parrot is a plain grey parrot. Though uncommon due to Vasa parrots being almost impossible to breed, the value of a Vasa parrot is roughly $1500, less than a Macaw. Further, there is little interest in pet owners for Vasa's compared to Macaw and African Greys, which remain more available and more sought after by those wanting parrots. There were no known cases of Vasa parrots being stolen, that could be found. Vasa parrots are uncommon enough that trying to sell a stolen Vasa would be difficult and likely easy to track. The risk assessment of theft has been to be determined to be minimal. Nonetheless, the parrot is essential to the research and as this project has been ongoing, it is impossible to replace this exact research subject. All people at the facility will follow the following procedures at all times:

1. Keep facility gate locked.
2. Keep exterior doors to facility closed and locked at all times.
3. Keep monitored security system on at all times. Set alarm to Occupied when in facility and away when no people are in the facility.
4. Keep cage doors closed and locked at all times.
5. Minimize number of people that come to the facility.
6. Minimize number of people that are aware of the exact location of the parrot.
7. Maintain friendly relationship with neighbors to insure they will notify us of any unusual activity.
8. Make sure watch dog is outside any time the facility is empty or at nighttime.
9. Keep monitoring alarms. Have alarm notices sent to monitoring company AND smart devices at all times.
10. Keep motion detector exterior lights on at night.
11. Everyone entering must disinfect their hands before and after coming into the facility (normally the facility only has one to two occupants).
12. Keep birds wings clipped at all times.
13. Clean cage daily. Steam clean cage weekly.
14. Prevent all pests. Monitor for pests. Immediately exterminate any pests.
15. Do not discuss on social media or otherwise, the exact location of the parrot. Do not talk to people not involved in TTOUCH or the research or not personally known and trusted by Madson, about the bird or the research. Research will be published at the end of the project.

Details of Security Systems and Procedures.

1. This facility is protected by dual security systems. The first system is a monitored Simply Safe Security system, including door alarms on exterior doors, door of parrot cage, "breaking glass" sound activated alarm, primary and secondary high decible alarms in addition to the alarms all being monitored via WiFi and on Madson's mobile

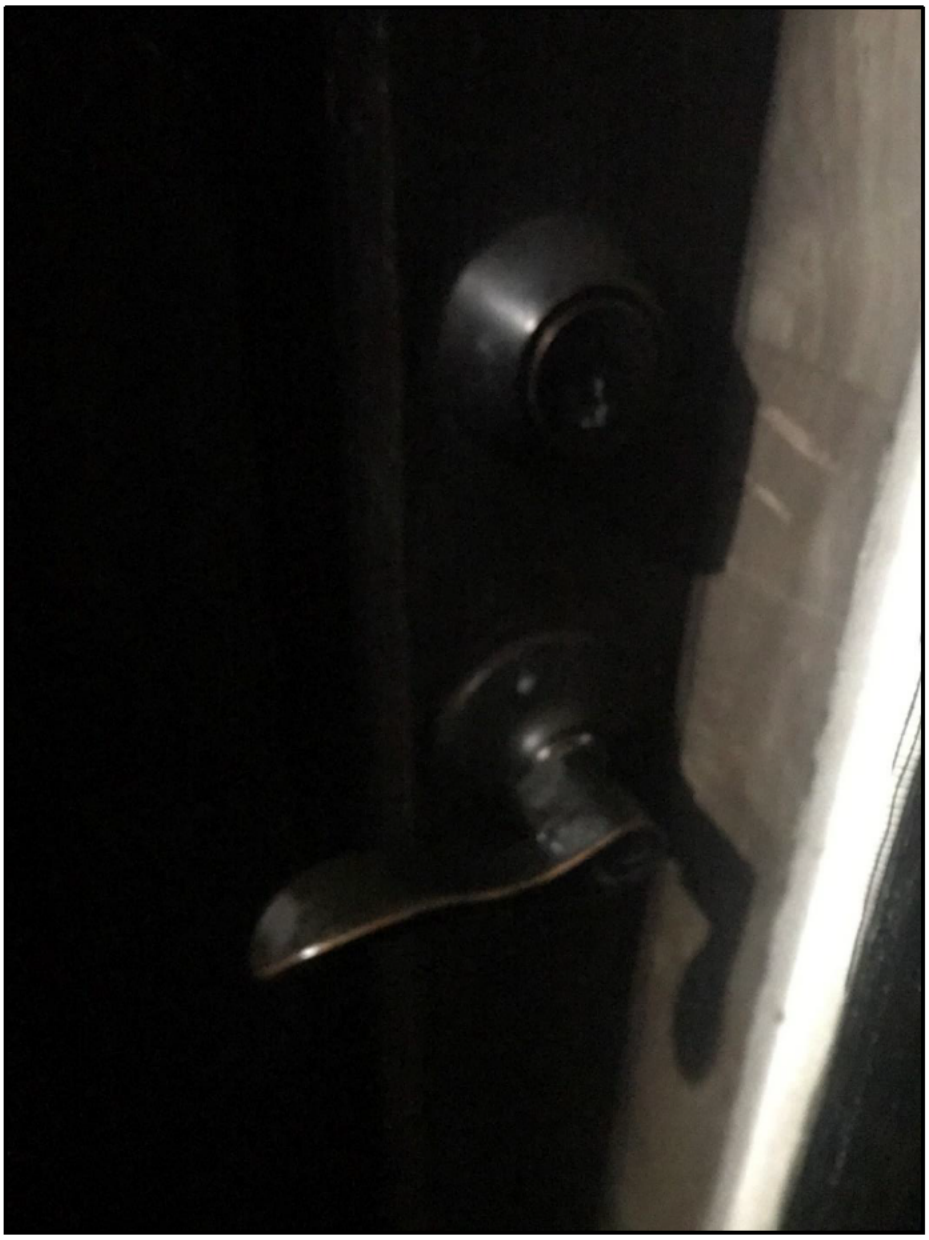
devices. Simply Safe system has additional motion activated alarms, flood alarm, CO2 and smoke alarms. Audio is available to be monitored on interior camera, which faces the cage. System to be set to Occupied when a person is present. Set alarm to Away if no person is present. Remember when set to occupied you must deactivate the alarm momentarily by entering your code, before opening any exterior door or the cage door, or alarm will sound and monitoring company (SimpliSafe) will be contacted. Remember your code word: you will need to have your code to deactivate alarm if monitoring system is triggered.

2. A second Q See DVR stand alone security system monitors and records 24/7 activity around the facility with day and night vision cameras. Cameras are to remain on 24/7.
3. Facility is fenced. Front gate to remain closed and locked at all times.
4. Exterior solid core doors on facility are to remain closed and locked. Doors are equipped with reinforced strike plates.
5. Exterior signage warns of Video and Security systems.
6. Bird shall have its wings clipped at all times so that there is no chance that it could escape.
7. Maintain working relationships with neighbors of facility to be aware of any unusual activity.
8. Watch dog is maintained in yard any time facility is unoccupied and at night time. Sound of dog can be monitored over the audio of the internal camera remotely through any smart device. Alerts are immediately sent to smart phone of Madson.
9. Bird will be microchipped before arrival at the facility. Microchip will be checked annually at annual vet check of bird.
10. Anyone handling a bird will disinfect their hands before and after handling the bird.
11. Facility is monitored for pests, including rodents and bugs. Any pests will be immediately treated and exterminated.
12. Bird seed will be kept in pest proof containers.
13. Cage will be cleaned daily, including feed bowls. Cage will be disinfected by steam cleaning weekly.
14. Normally there are only one to two people at the facility; facility will limit people into the facility.
15. Bird and research are to be used including with demonstrations on social media. The exact location of the bird will not be advertised outside the research community.
16. The bird has less of a commercial value than a macaw. There is not a high demand in the pet community for this type of bird. Nonetheless, in order to safe guard the research and the bird, all safety precautions will be adhered to by all people at the facility at all times.

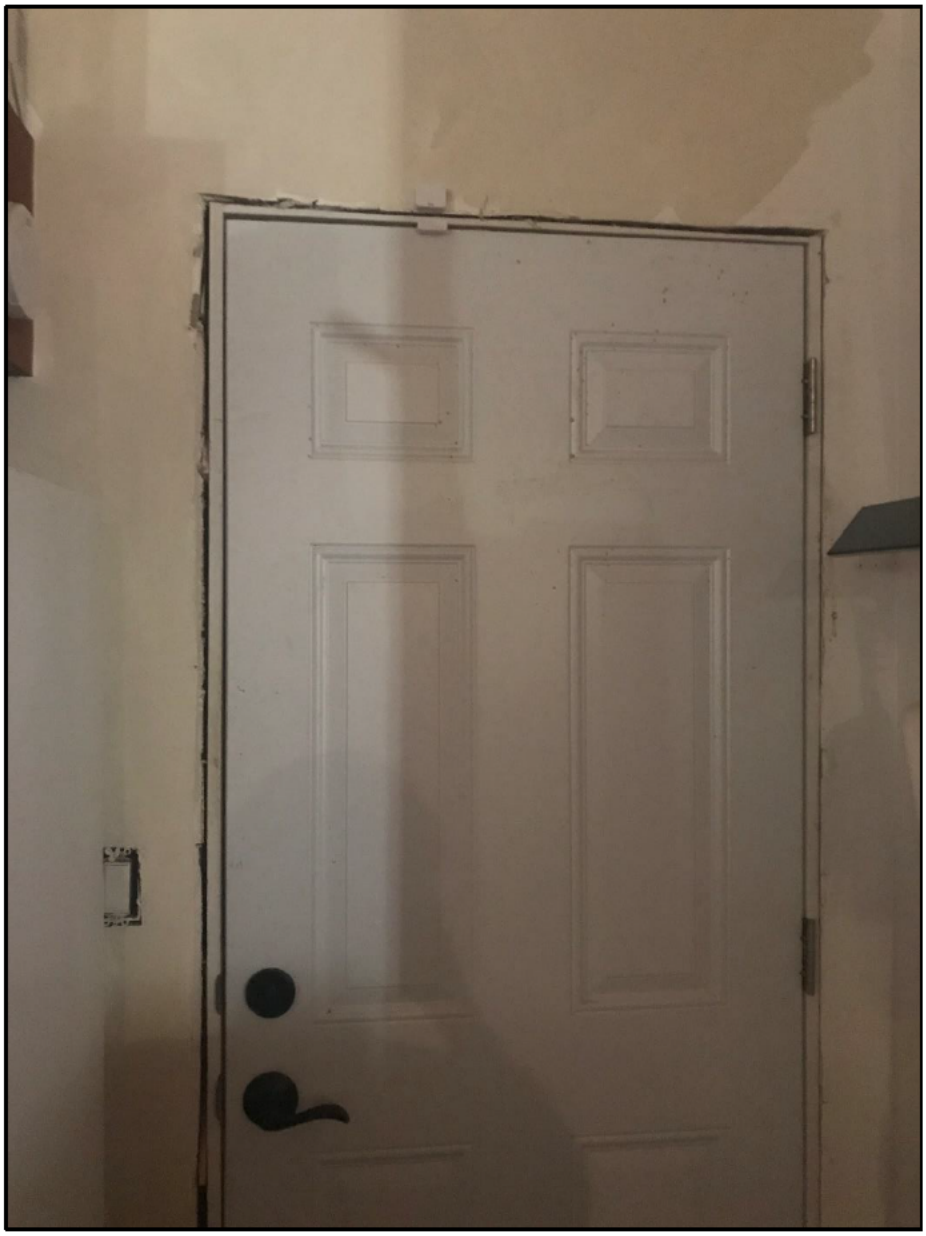
Photograph 1 depicts “Grover” the Vasa Parrot.

Photograph 2 depicts Lise Madson's Facility.

Photograph 3 depicts the cage where the bird will be housed.



Photograph 4 depicts a wood door which has a lock, deadbolt, and door alarm.



Photograph 5 depicts a steel exterior door with lock, deadbolt, and door alarm.

Photograph 6 depicts a solid wood door with alarm pad and door alarm.

Photograph 7 depicts one of the day and night vision Qsee cameras. The facility also has motion activated exterior lights.

Photograph 8 depicts the interior camera.

Photograph 9 depicts the QSee DVR for outdoor cameras.

Photograph 10 depicts the Security System display keypad.