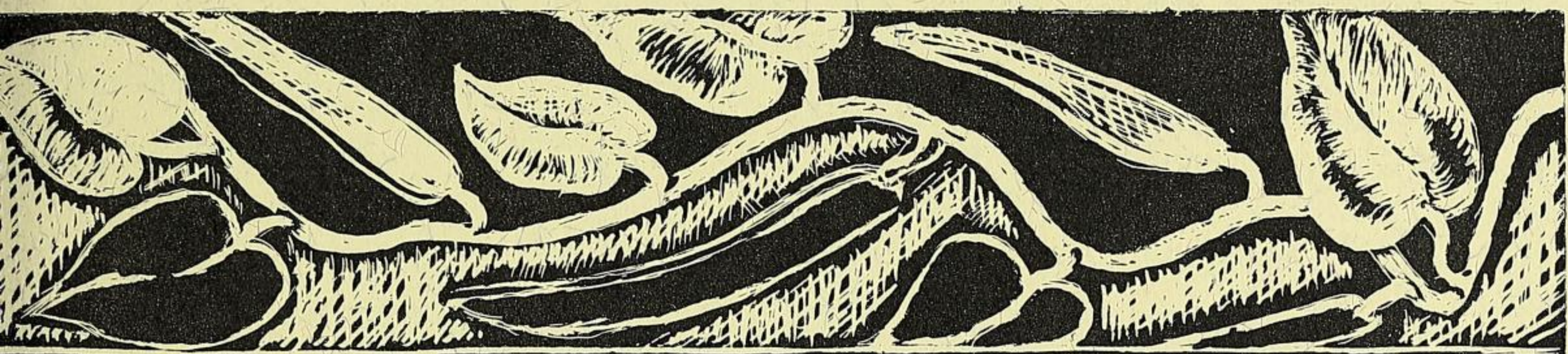


Animal Keepers' Forum

The Professional Journal of AAZK, Inc.

February 1995



CAMILLE DORIAN '94

De BRAZZA GUENON



Dedicated to Professional Animal Care

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Information for Contributors

Animal Keepers's Forum publishes original papers and news items of interest to the animal keeping profession. Non-members are welcome to submit articles for consideration.

Articles should be typed or hand-printed and double-spaced. All illustrations, graphs, charts and tables should be clearly marked, in final form, and should fit in a page size **no greater than** 15cm x 25½cm (6" x 10"). Literature used should be cited in the text (Brown, 1986) and alphabetically in final bibliography. Avoid footnotes. Include scientific name of species (as per ISIS) the first time it is used. Thereafter use common name. Use metric system for weights and measurements (standard equivalents may be noted in parenthesis). Use the continental dating system (day-month-year). Times should be listed as per the 24-hour clock (0800, 1630 hrs. etc.). Black and white photos **only** are accepted. Color slides should be converted to black and white prints (minimum size 3" x 5") before submission. Clearly marked captions should accompany photos. Please list photo credit.

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The Importance of Training in Facilitating Care and Treatment of Exotic Animals: An Example

By
Farshid Mehrdadfar, Animal Keeper
Metro Washington Park Zoo, Portland, OR

As an animal keeper, the most stressful times in my profession have been dealing with and caring for animals that are ill or injured. Because animals are so good at masking illness and injury, one of the many challenges of my job has been to understand and recognize the early signs of illness and to properly record and report the behaviors associated with these signs. At the Metro Washington Park Zoo, we have been striving to make these times easier and less stressful for the animals in our care by training animals to cooperate with a number of veterinary procedures. This in turn makes the keeper's job easier and less stressful.

Target training through positive reinforcement has been widely used in marine mammal facilities. By modifying this method of training, we are integrating some behaviors for routine medical care of the animals such as temperature reading, blood collection, physical examination, etc. We also view this process as behavioral/environmental enrichment that both animals and keepers seem to enjoy and anticipate.

In January of 1994 I was assigned to the zoo's African exhibit. Included in this area are 1.1 Black rhinos (*Diceros bicornis*); a seven-year-old male (Pete) and a six-year-old female (Miadi). To provide better care for these animals, a training regime was begun. The objective was to make routine medical examination of the animal as stress-free as possible. In March of 1994, I invited the zoo's research committee (General Curator, Assistant Curator, Veterinarian staff, Research/Conservation Coordinator) to discuss the formal training of Pete. Protocol was set and certain goals were established, including:

1. Habituate (desensitize) the male rhino to the treatment/transfer area of his holding facility. Specifically, the goal was to have the animal calm and relaxed in this area. Prior to this training he was not comfortable in the treatment area.
2. Construction and introduction of the TARGETS (head target and body target) to the animal and establishing the BRIDGE for this training.
3. Establish the commands necessary to work with a target so that the animal reliably comes to and remains at a designated spot. (It must be noted that this training has been executed through protective contact/positive reinforcement only.)
4. Introduction of a second trainer.
5. Temperature collection (rectally). By keeping the animal still and backed up against the bars of the transfer area, a second trainer can insert the thermometer into the rectum and upon the beep of the thermometer, the temperature is read and recorded.
6. Blood collection (from ear vein). By targeting the animal and aligning him in the treatment/transfer area and keeping him stationary, the second trainer places the tourniquet on the base of the animal's ear and collects blood from the ear vein.

1. Habituate the male rhino to the treatment/transfer areas of his holding: As the primary trainer, I started the process using a half hour out of my daily shift, between 0600 hrs and 0800 hrs. The first step was getting the animal used to me and my voice. By simply observing the animal, I could better understand the body movement and different behaviors that were exhibited in his holding area. From these observations, I perceived the attention span of the animal, and established the duration of time needed for each training session.

The Importance of Training in Facilitating Care and Treatment, *Continued*

Shortly after this, I started acclimating the animal to the transfer/treatment area adjacent to his holding facility. My initial goal was to develop a mutual trust between Pete and myself. This trust has proven critical to the success of the entire training.

2. Construction and introduction of the targets and establishing the bridge: I started establishing a "bridge" by using a clicker and pairing the clicker noise with a reward (1/4 apple) whenever Pete approached me. The first three weeks of introduction consisted of daily 30-minute sessions. Then I introduced the head target, a 1' diameter white plastic disc (lid to a 5-gallon bucket) attached to a 3' gray PVC pipe. The purpose of the head target was to teach the animal to station. The bridge and the subsequent reward has been consistent throughout the training. First the rhino was trained to consistently position the base of his horn against the head target on command. Next, I introduced the body target, a white pool float attached to a bamboo pole. The purpose of the body target was to teach the animal to align to a particular location. With the body target ready, I began training. The object was to teach the rhino to touch the body target with his hindquarters. The command used for the head target was "Target" and the command for the body target was "Over". These two behaviors were shaped in three months.

3. Introduction of a second trainer: Addition of the second trainer was another critical point in this training process. The second trainer demonstrates the generalizability of the trained behavior. Also, it assured the animal was not cuing in on one person and therefore responding to body movement of his or her primary trainer. Without the second trainer, temperature and blood collection would be physically impossible. "While in the midst of shaping a behavior, you risk major slowdowns if you turn the training over to someone else. No matter how scrupulous one may be in discussing criteria before turning over the job, everyone's standards, reaction times, and expectations of progress are slightly different, and the net effect for the subject is to lose reinforcement until those differences can be accommodated." (Pryor, 1984). Therefore, each behavior needed to be shaped before the second trainer's assistance is solicited.

At this point, I started using the command "STEADY" to keep the animal stationary. In conjunction with the previous two commands, he will now station and remain aligned and still for as long as 10 minutes. His reliable compliance allows me (us) to take his temperature (rectally), collect blood from his ear vein, and examine his body with touch. The command "OVER" is now being performed without the actual target (by verbal command only).

Traditionally marine mammals, and more recently primates and elephants, were the primary candidates for this form of training. The Metro Washington Park Zoo staff is proving that with some modification, many of our animals can benefit from training. This type of husbandry training can also serve as a form of environmental enrichment; the rhino that I train (as well as the numerous other animals being trained by other keepers) seem to enjoy the attention received during training sessions.

The zoo community has come a long way from simply exhibiting animals for amusement. Training provides one more step toward better care and sound animal keeping. Having a team project and a closer rapport with our animals has been another decisive factor toward achieving our goals. Although training has always been a part of an animal keepers' job (training the animals to shift to and from exhibit, moving the animals to different holding areas, etc.) this level of training has given us a more expanded and formal role as animal keepers performing our daily routines. Operant conditioning training as it has developed in our situation has given us another tool to monitor the health of this animal.

Animal Management staff were given regular information and updates throughout the entire training process. None of this would have been possible without their participation and support.

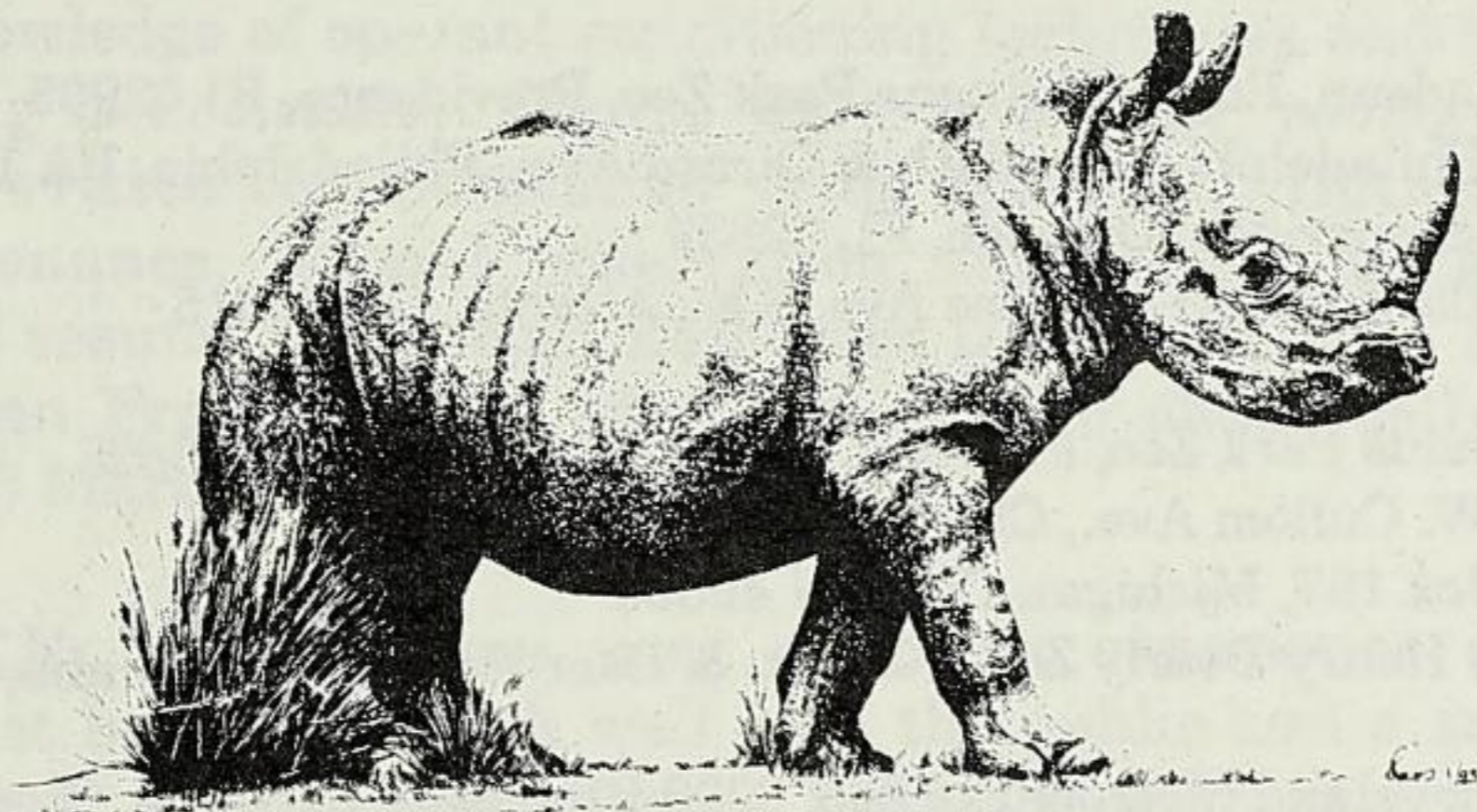
The Importance of Training in Facilitating Care and Treatment, *Continued*

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Reference

Pryor, K. (1984) *Don't Shoot the Dog! Shaping*, Chapter 2, pg. 61. Bantam Books, NY, NY.



Vanishing Flytraps

Admired since before the days of Darwin for their carnivorous habits, Venus' flytraps today are sold in plant stores around the world. But in the wild, the only place these small plants have ever been found is the sandy, boggy soil within 125 miles of Wilmington, NC. The unusual plant captivated early English colonists. In the 1770s the British naturalist John Ellis gave the plant its scientific name, *Dionaea muscipula*, which, literally translated, means the "mousetrap of Venus". But as the Carolina coastal plain is developed and poachers continue to dig up the plants for resale, Venus' flytraps are quietly vanishing from the wild.

"Used to be, every wooded area you went to, all over Brunswick County, there would be lots of them. Now there's none," says Milton McLean, a North Carolina Wildlife Resources Commission enforcement officer who patrols the Green Swamp Preserve for flytrap poachers. Green Swamp itself, once 200,000 acres of good flytrap habitat, is now reduced to 16,000 acres, managed by The Nature Conservancy.

For about 100 years, locals have made extra money hunting flytraps. Though they are now readily propagated through tissue culture, collecting them is cheaper. Poachers can pry the plants loose with a tire iron and make 10 to 50 cents per bulb - as much as a few hundred dollars in a day spent in the woods, according to McLean. Last summer his crew inspected Green Swamp by plane and nabbed five poachers in one day. Nurseries do a brisk business in the plants: in 1990 about 1.1 million flytraps were sent overseas, according to the World Wildlife Fund. The domestic market is estimated to be just as large.

Once reported in 21 counties - 18 in North Carolina and three in South Carolina - today the Venus' flytrap grows in only 11 counties. All 65 of the known populations are located in the transition zones between dense, shrubby bogs (called pocosins) and the sandy soil of open pine woodlands. These sandy, nitrogen-poor coastal soils no doubt contributed to the evolution of the flytrap's unusual predatory habit, since insects can serve as a good alternate source of nitrogen. *Audubon via Nature News*, Vol. 10, No. 11, *The Nature Book Society*.

