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The features marked with a star (\*) are based entirely on material taken straight from standard research (and other Official and Therefore Always Correct) literature. Many of the other articles are genuine, too, but we don't know which ones.



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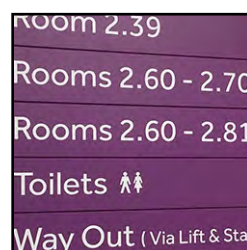
### On the Front Cover

Bits of many big animals. Montage by Nan Swift.



### On the Back Cover

Sign for room 2.60 and its neighbors, in a building at the University of Manchester, UK. Photo: A.S. Kaswell.



## Improbable Research Reviews\*

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## Coming Events

See [IMPROBABLE.COM](http://IMPROBABLE.COM) for details of these and other events:

**Mar/Apr 2020** – Ig Nobel Euro Tour

**Jul 2020** – TICKETS go on sale for the 30<sup>th</sup> First Annual Ig Nobel Prize ceremony

**Jul 2020** – Readercon, Quincy, MA, USA

**September 17, 2020** – 30<sup>th</sup> First Annual Ig Nobel Prize ceremony & webcast, Sanders Theatre, Harvard U.

**September 19, 2020** – Ig Informal Lectures and webcast, MIT

**Fall 2020 (Date TBD)** – Japan

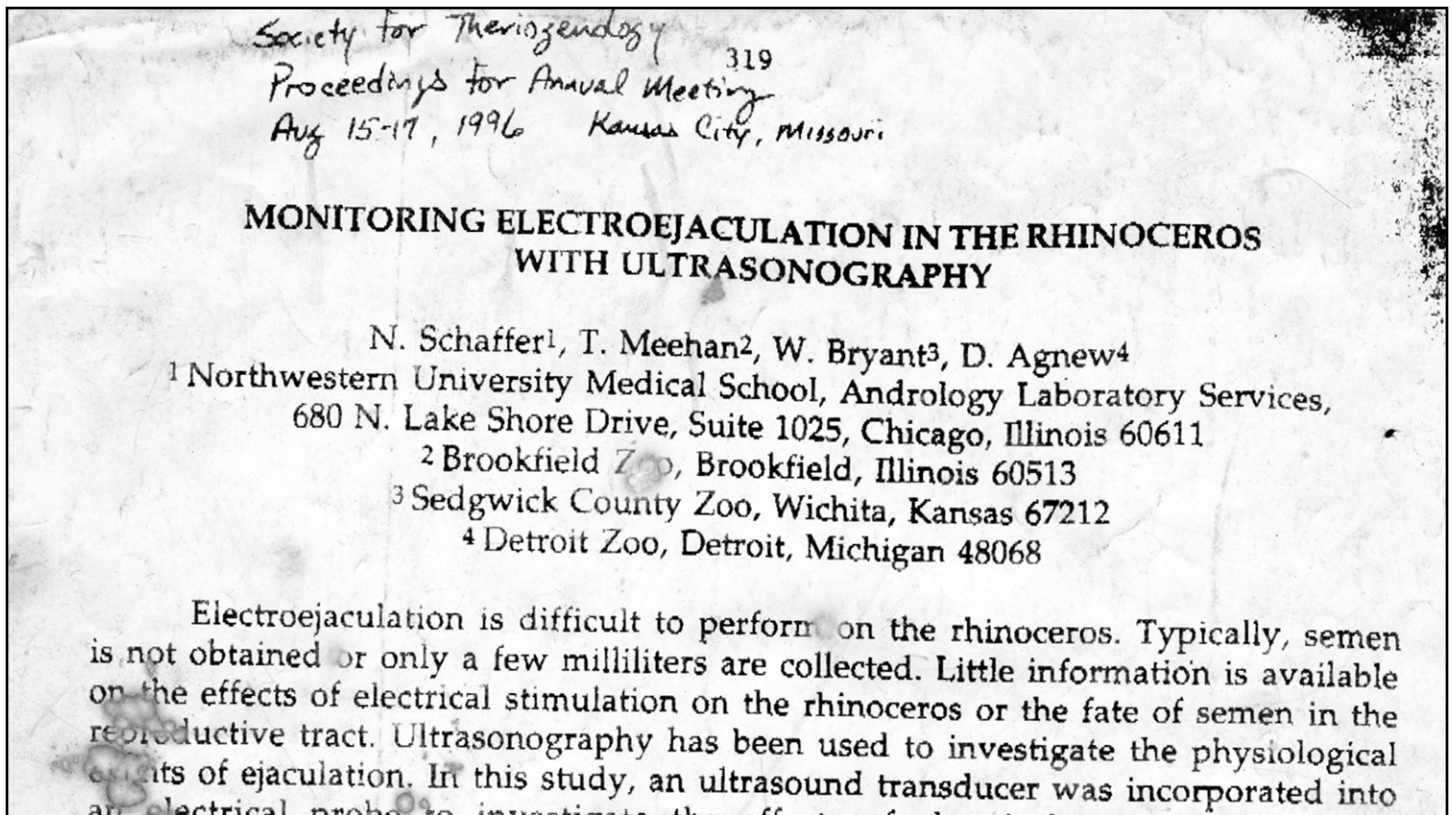
## Where There's More

There's always new improbable — it's not what you expect! — stuff on the **Improbable Research blog** at [IMPROBABLE.COM](http://IMPROBABLE.COM)

# ELECTROEJACULATION IN THE RHINOCEROS

*Seminal experiments with large, horned animals*

by R.B. Bohaker, *Improbable Research staff*



## Persistence Presumably Pays Off

“Monitoring Electroejaculation in the Rhinoceros with Ultrasonography,” Nan Schaffer, Tom Meehan, William Bryant, and Dalen Agnew, *Society for Theriogenology, Proceedings for Annual Meeting, August 1996, Kansas City, Missouri.* (Thanks to Bob Campbell for bringing this to our attention.) The authors demonstrate something unusual in scientific writing: the power of a well-crafted lead sentence. The article begins with the following statement:

Electroejaculation is difficult to perform on the rhinoceros.

*Nan Schaffer, lead author of the study  
“Monitoring Electroejaculation in the  
Rhinoceros with Ultrasonography.”  
Drawing by Nan Swift.*



*continued >*

# ELECTROEJACULATION IN THE RHINOCEROS [CONTINUED]

## A Uniquely Designed Probe

“Semen Collection in Rhinoceroses (*Rhinoceros unicornis*, *Diceros bicornis*, *Ceratotherium simum*) by Electroejaculation With a Uniquely Designed Probe,” Terri L. Roth, Monica A. Stoops, Mark W. Atkinson, Evan S. Blumer, Mark K. Campbell, Ken N. Cameron, Scott B. Citino, and Adolf K. Maas, *Journal of Zoo and Wildlife Medicine*, vol. 36, no. 4, 2005, pp. 617-627. The authors, at Cincinnati Zoo and Botanical Garden; The Wilds, Cumberland, Ohio; White Oak Conservation Center, Yulee, Florida; Exotic and Companion Animal Veterinary Services, Mooresville, Indiana; and Montana Department of Fish, Wildlife and Parks report:

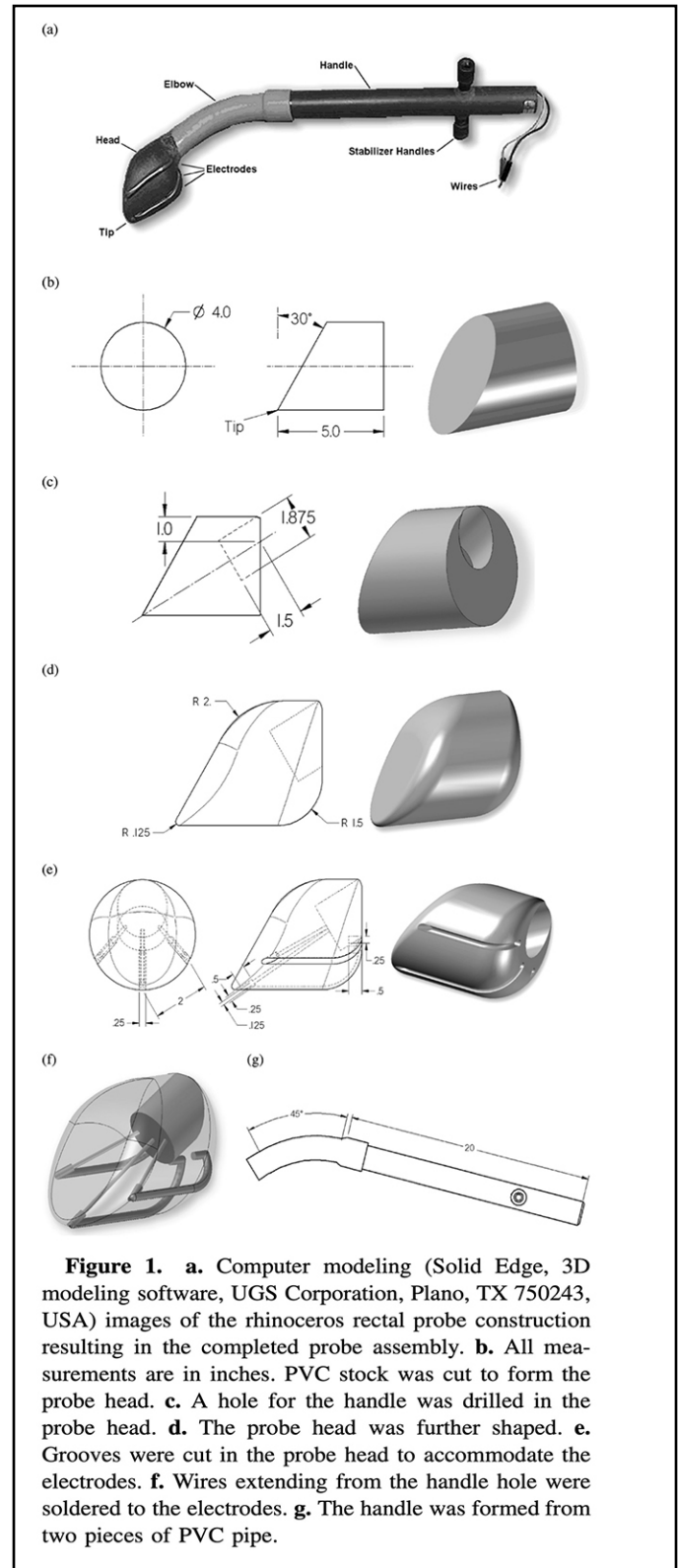
The goal of this study was to develop a reliable method of electroejaculation in the rhinoceros by designing a rectal probe that appropriately fits the anatomy of this taxon...

The probe consisted of an oblate, ellipsoid head containing three electrodes. The head of the probe was shaped in a manner that facilitated both insertion through the tight anal sphincter and electrode contact with the rectal lining over the accessory glands during stimulation. The probe assembly was constructed from a solid rod of polyvinyl chloride (PVC) stock, standard PVC pipe, flexible copper tubing, standard multistrand insulated copper wire, two-part epoxy putty, and appropriate adhesives....

One person handled the probe, the second delivered the stimulation by controlling the electroejaculator, the third recorded the data, the fourth massaged the penis, and the fifth kept the tip of the penis in a collection cup. Additional hands were required to take cups with sample fractions and supply new cups and to hold the ropes around the rhinoceros's hind legs.



Further detail from the study “Semen Collection in Rhinoceroses (*Rhinoceros unicornis*, *Diceros bicornis*, *Ceratotherium simum*) by Electroejaculation With a Uniquely Designed Probe.”



**Figure 1.** a. Computer modeling (Solid Edge, 3D modeling software, UGS Corporation, Plano, TX 750243, USA) images of the rhinoceros rectal probe construction resulting in the completed probe assembly. b. All measurements are in inches. PVC stock was cut to form the probe head. c. A hole for the handle was drilled in the probe head. d. The probe head was further shaped. e. Grooves were cut in the probe head to accommodate the electrodes. f. Wires extending from the handle hole were soldered to the electrodes. g. The handle was formed from two pieces of PVC pipe.

Detail from the study “Semen Collection in Rhinoceroses (*Rhinoceros unicornis*, *Diceros bicornis*, *Ceratotherium simum*) by Electroejaculation With a Uniquely Designed Probe.”