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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.

ANNALS OF

IMPROBABLE RESEARCH



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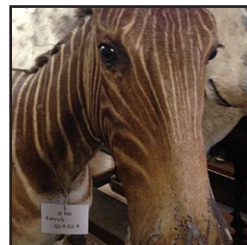
On the Front Cover

Stylized drawing, by Nan Swift, of a detail from a forensic report. See page 16.



On the Back Cover

A deceased quagga in storage in the Vienna Natural History Museum. Photo by A.S. Kaswell.



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Some Coming Events

See IMPROBABLE.COM for details of these and other events:

September 12, 2019

Ig Nobel Prize ceremony and webcast, Harvard U

September 14, 2019

Ig Informal Lectures and webcast, MIT

September 23, 2019

BEworks, Ottawa, Canada

October 8, 2019

Red Hat, Boston, MA

October 2019

Tanween, Dhahran, Saudi Arabia

October 25, 2019

APS, Lubbock, TX

November 29, 2019

“Science Friday” radio broadcast

January 12, 2020

Beijing, China

January 2020

Arisia, Boston, MA

February 2020

AAAS, Seattle, WA

March/April 2020

Ig Nobel EuroTour



Where There's More

There's always new improbable — it's not what you expect! — stuff on the **Improbable Research blog** at IMPROBABLE.COM

SPERM BAGS RESEARCH

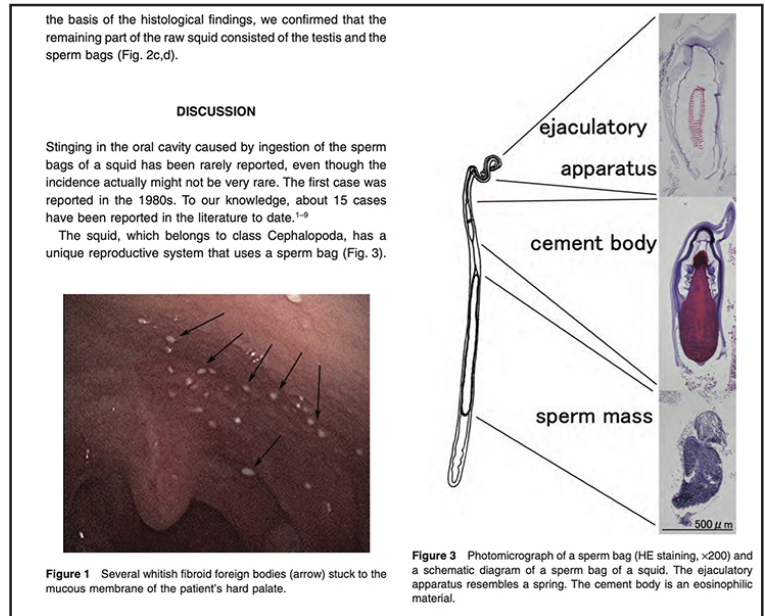
Thinking and looking inside and outside the bag

compiled by Nan Swift, Improbable Research staff

Sperm Bag in the Oral Cavity

“Stinging in the Oral Cavity Caused by Ingestion of the Sperm Bags of a Squid: A Case Report,” Yukihiro Shiraki, Kumi Kawai, Sawako Kojima, Yasuhiko Suzuki, and Kenzo Ono, *Pathology International*, vol. 61, no. 12, December 2011, pp. 749-751. The authors, at Aichi Medical University, Aichi, Japan, report:

We present a case of stinging in the oral cavity caused by ingestion of the sperm bags of a squid. The patient experienced severe pain in her oral cavity immediately after eating raw squid. When she was examined at our hospital, we found that several small whitish spindle-shaped stings were stuck to the mucous membrane of the hard palate. A biopsy was performed, and the whitish stings were removed as well. We also performed a histological examination of the remaining part of the raw squid brought by the patient. The biopsy showed that the sperm bags of the squid had thrust into the squamous epithelium of the patient. The remaining part of the raw squid consisted of the testis and the sperm bags. After removal of all stings, the pain reduced, and the wound healed in due course. Larva migrans and anisakiasis are infections known to be caused by consumption of raw seafood. Although the condition reported here is relatively rare, doctors should also keep this condition in mind for patients reporting pain after eating raw seafood.

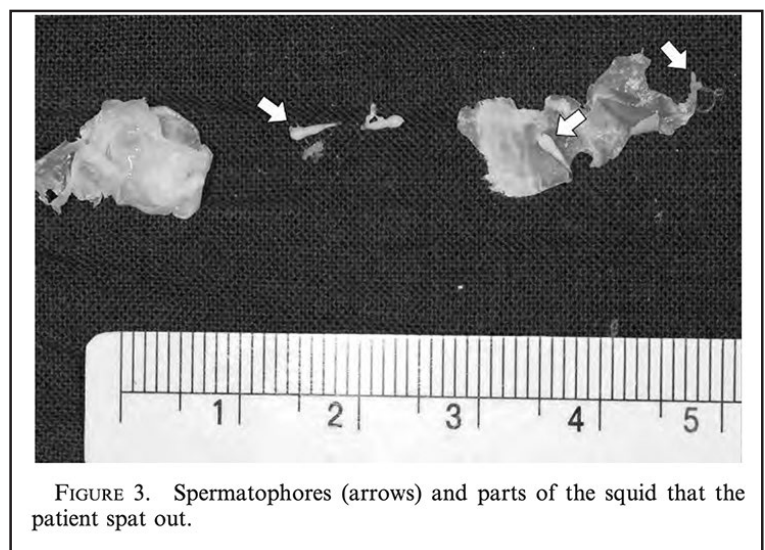


Detail from the study “Stinging in the Oral Cavity Caused by Ingestion of the Sperm Bags of a Squid: A Case Report.”

Sperm Bag in the Oral Mucosa

“Penetration of the Oral Mucosa by Parasite-Like Sperm Bags of Squid: A Case Report in a Korean Woman,” Gab-Man Park, Jong-Yun Kim, Jeong-Ho Kim, and Jong-Ki Huh, *Journal of Parasitology*, vol. 98, no. 1, February 2012, pp. 222-223. (Thanks to Frank Swain for bringing this to our attention.) The authors, at Kwandong University College of Medicine, South Korea, report:

We report a case of oral stings by spermatophores of the squid *Todarodes pacificus*. A 63-yr-old Korean woman experienced severe pain in her oral cavity immediately after eating a portion of parboiled squid along with its internal organs. She did not swallow the portion, but spat it out immediately. She complained of a pricking and foreign-body sensation in the oral cavity. Twelve small, white spindle-shaped, bug-like organisms stuck in the mucous membrane of the tongue, cheek, and gingiva were completely removed, along with the affected mucosa. On the basis of their morphology and the presence of the sperm bag, the foreign bodies were identified as squid spermatophores.



Detail from the study “Penetration of the Oral Mucosa by Parasite-Like Sperm Bags of Squid: A Case Report in a Korean Woman.”