

Appendix # 5

**Examples of
Hyponymy:
'Felines' and
Lexical Sets of
'Food'**

Cats finicky for

reason Researchers

find dysfunctional gene

that prevents sweet tooth

By Paul Elias

The Associated Press

1. San Francisco- **Cats** are notoriously **finicky eaters**, as millions of **pet owners** can attest.

2. Now, there's a scientific theory explaining, at least in part, why **cats** have such snobby **eating habits**: genetics.

3. Researchers at the Monell Chemical Senses Center in Philadelphia and their collaborators said Sunday they found a dysfunctional **feline** gene that probably prevents **cats** from **tasting sweets**, a sensation nearly every other **mammal** on the planet experiences to varying degrees.

4. Researchers took **saliva** and blood samples from six **cats** including a **tiger** and a **cheetah** and found each had a useless gene that other **mammals** use to create a "sweet receptor" on their **tongues**. The gene in question does not produce one of

the two vital proteins needed to form receptors.

5. "Because **cats** can't **taste sweets**, they're cranky," joked Joseph Brand, Monell's associate director and an author of the paper published Sunday in the Public Library of Science's journal Genetics.

6. Brand said the "pseudogene" is probably a big reason why they are **carnivores** that get by on a **high-protein diet**. "Atkin's-like"

7. "Its sense of **taste** has driven it to become a **meat-eater**," Brand said. "Losing their sweet receptor has probably changed their **dietary habits**."

8. Brand said the paper is a culmination of a lingering question that nagged at him since he visited the Philadelphia Zoo with a colleague 25 years ago to watch the **feeding habits** of **big cats**.

9. All **mammals** have receptor cells on their **tongues** that send **taste** signals to the brain to process. The receptor cells are clustered together as **taste buds**. Each human **taste bud** is comprised of 50 -100

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receptor cells representing the five major **taste sensations: salty, sour, sweet, bitter and umami**, the taste of the **food additive MSG** and **fermented soy products**, among other **foods**.

10. Most **mammals'** sweet receptors are created by two **proteins**, one of which **cats** are missing.

11. The study was paid for, in part, by the research arm of the **pet food** giant Mars Inc, which is looking to make **better-tasting cat food**. The company has the rights of first refusal to commercialize the discovery published Sunday, Brand said.

12. Brand said the discovery could help veterinarians treat ill **cats**.

13. "Everyone knows that **cats** are finicky," said Brand, who owns to **cats**. "And one big issue is how to make **food palatable** enough for a **sick cat** to **eat**."