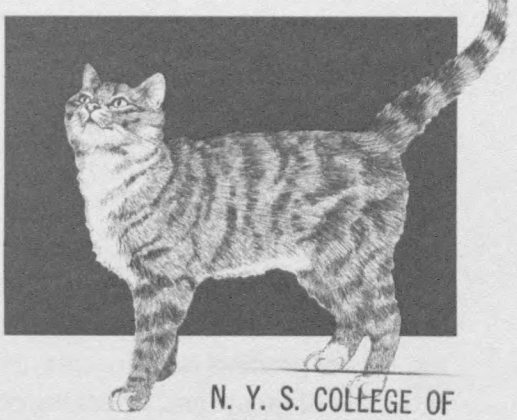
Perspectives On Cats

A Newsletter for Cat Fanciers From The Cornell Feline Health Center

Summer 1990



Feline Bronchial Diseases

June E. Tuttle, B.S.

Coughing, sneezing, wheezing, and shortness of breath are associated most commonly with bronchial diseases. Bronchial diseases occur when the lungs' air passages are obstructed or restricted, thus decreasing air flow. Unfortunately, cats may be more susceptible to bronchial diseases than other animals because of basic differences in their respiratory anatomy. Those anatomical differences include an increased number of seromucous bronchial glands (especially in older cats) and a thickened bronchial wall which can constrict the bronchial tubes.

Although coughing and shortness of breath are typical signs of bronchial diseases, these signs can indicate other conditions such as heart problems, feline infectious peritonitis (FIP), or tumors. Based on a Cornell study, middle-aged (2 to 8 years old), female and Siamese cats are most susceptible to bronchial diseases. Duration of the disease is variable. A seasonal incidence was not substantiated statistically.

Types of Bronchial Diseases

Asthma, acute bronchitis, chronic bronchitis, and emphysema are the four basic categories of bronchial diseases suggested by the Cornell study. However, more clinical and diagnostic studies are needed to develop specific criteria to describe bronchial diseases of cats more completely.

Asthma is a reversible obstruction of the airway, marked by spasmodic contractions of the bronchi. It can occur in any age cat, but mostly occurs in young adult cats. Shortness of breath, with or without coughing and wheezing are typical signs of asthma.

Asthma is caused by a hyperreactive immunologic and/or neurologic response to certain stimuli. Cat litter dust, cigarette smoke, aerosols, and disinfectants containing quaternary compounds have been implicated as irritants precipitating an asthmatic attack.

Drugs which dilate the air passages are effective in controlling asthma, however, they cannot cure asthma. This disease requires a commitment to providing long-term treatment.

Acute bronchitis is an inflammation of the bronchi usually caused by a bacterial infection or which has a short and moderate course. It can occur in cats of any age. The most common sign is coughing. Bronchitis responds well to antibiotics if the inflammation is caused by a bacterial infection.

Inside this issue ..

Chronic bronchitis is a long-standing inflammation of the bronchi. Middle to old age cats and Siamese cats are more predisposed to this disease. Coughing, shortness of breath and wheezing occur when a cat has this disease. Despite treatment, the cat never completely recovers and may have relapses.

Emphysema occurs when the lungs lose their elasticity and air accumulates in the lungs. Oftentimes it is a sequel to chronic bronchitis. The disease can occur at any age. Unfortunately, the prognosis is very poor since the damage done to the lungs is irreparable.

Diagnosis

A veterinarian bases his/her diagnosis of bronchial disease on patient history, physical exam and diagnostic tests. However, diagnosis may be complicated if more than one bronchial disease occurs simultaneously (i.e. bronchitis and asthma). Patient history can provide important clues for the veterinarian as to the type of bronchial disease present. As owner, you are more aware of changes in your cat's behavior and physical well-being, and can provide valuable information such as *the type of cough (productive or nonproductive), the duration of cough and what aggravates the cough, the presence or absence of nasal or ocular discharges, and if the cat snores, wheezes or has trouble breathing.*

Diagnostic tests performed by a veterinarian may include microscopic examination and culture of a throat wash and chest radiographs. A heartworm test and fecal flotation may also be done to preclude other diseases with similar signs.

Treatment

Treatment is aimed at relieving the bronchial obstruction and restriction, controlling coughing and secretions, eliminating or preventing infections, and controlling further complications.

The drugs prescribed may include bronchodilators, corticosteriods, or antibiotics. Therapy may include more than one drug based on diagnosis. ■

Cat Book Available from Feline Health Center

If you have been unable to purchase a copy of ***The Cornell Book of Cats*** from your local bookstore, you can now order it *directly* from the Cornell Feline Health Center.

To order a copy send your name and address, with $26 payment to cover the book, shipping and handling. If you are a New York State resident, please add 7% sales tax. Payment can be in the form of a check or money order made payable to *Cornell Feline Health Center* or by providing your Visa or Master Card account number. As an added convenience, credit card purchases can be called in to our office at (607) 253-3415.

Perspectives On Cats
A Newsletter for Cat Fanciers From The Cornell Feline Health Center

The ultimate purpose of the Cornell Feline Health Center is to improve the health of cats everywhere, by developing methods to prevent or cure feline diseases, and by providing continuing education to veterinarians and cat owners. All contributions are tax-deductible.

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Assistant Director: **John E. Saidla, D.V.M.**
Editor: **June E. Tuttle**
Secretaries: **Sheryl A. Thomas, Gwen Frost, Phyllis Dague**

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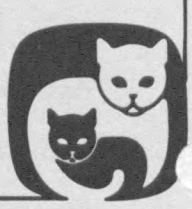


CATANATOMY

Thomas G. Morrisey

When your veterinarian talks about *carpal pads*, do you think the doctor means something that goes under a rug? Does the *nictitating membrane* sound like something they make cigarette filters from?

Actually, both of these odd-sounding things are parts of the creature who's probably sleeping on your knees at this very moment. Cat owners have their own terms for these and various other feline features. But it helps to know the textbook terms as well.

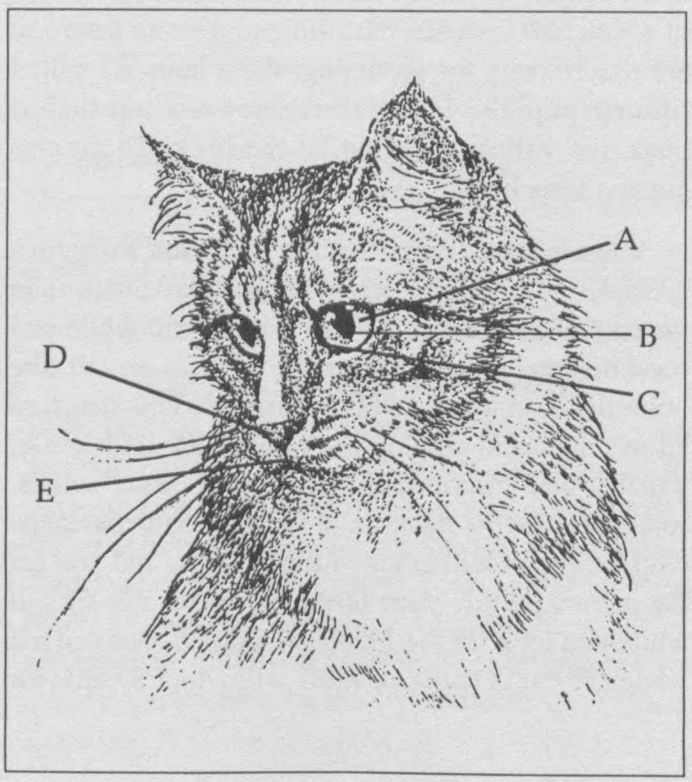
For one thing, when veterinary students learn all about cats, they acquire a completely different vocabulary in the process. Any they look at things differently. To you, for instance, the ear is something that's mostly on the outside of your cat's head. To someone trained in medicine, the ear is mostly *inside*; what's outside is called something else.

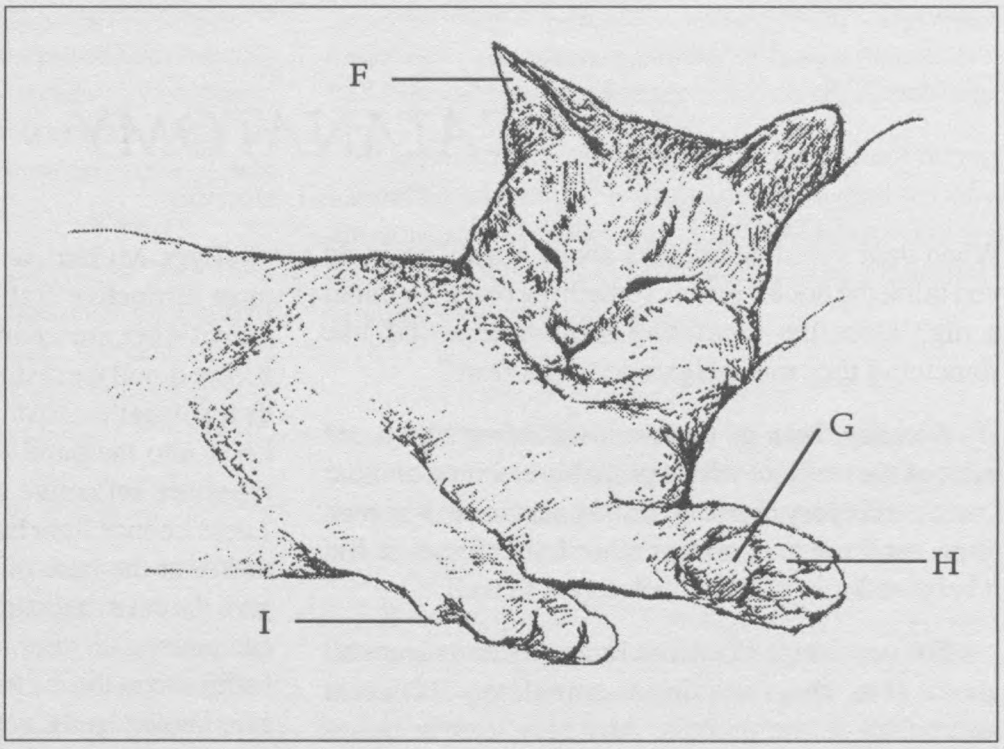
Most of the names taught in feline anatomy classes are terms associated with interior bones, tissues and organs — parts you generally won't need to know the names of, unless you're wondering what makes all those odd gurgling sounds when Fluff sneaks up onto your pillow at 3 a.m.

There are, however, some terms you can use to "find your way' around the cat when you're describing an ailment to your veterinarian on the telephone, or just making party conversation with another cat person.

If your feline friend is typical, his face and forepaws most often attract your attention. From good-morning licks on your nose to good-natured swipes at your dangling necktie or necklace, the average cat's face and paws are virtually impossible to ignore. Here's a basic tour of those parts that have become so familiar to you — even if the names are new:

Eyes. Mysterious and expressive, the eyes are the most distinctive feature. Most of the visible parts of the cat's eye are the **iris** (A), the curving, clear **cornea** before it, and the distinctive **pupil** (B), which contracts to a slit, rather than the round shape humans have. Look into the pupil with the light and you'll see the **tapetum**, reflective cells which lie under the retina. These bounce light back to the front of the eye like the mirror at the base of an astronomer's telescope, and give the cat a "second chance' in very dim light (so he can pounce on your toes while you're groping to the bathroom in the middle of the night). The white of the eye, known as the **sclera**, is only marginally visible, except when the eyelids are open wider than normal, as is the case when your veterinarian examines your cat's eyes.





Speaking of eyelids, when your pet's eyes are being examined, you'll probably notice the **nictitating membrane** (C) (*there* it is!). This feature, often referred to by cat owners as the "third eyelid' is a membrane that the cat uses to cover much of its cornea whenever something comes near the eye.

Tongue. Look quickly while Fluff's in mid-yawn, and you may notice that the tongue has three different kinds of "taste buds" on it. Those around the perimeter of the tongue are slightly mushroom-shaped and so are called **fungiform** (as in fungus, or mushrooms) **papillae**. The fungiform papillae are just what they look like — taste buds. By contrast, the buds in the center, which are hooked like the business side of a Velcro® fastener, have little to do with taste and are used mostly for grooming; these buds are called **filiform papillae**. Finally, there are a few cup-shaped buds, the **vallate papillae**, at the back. These also contain taste buds.

Closely related to taste is the **Jacobson's organ**, a special, tiny structure located behind the front teeth in the roof of the mouth. If Fluff will sit still while you open his mouth, you can see the two tiny nostril-like holes that lead to the Jacobson's organ. This structure allows the cat to employ a special feline sixth sense, which is best described as the ability to "taste" smells. Imagine enjoying the taste of your favorite chocolate chip ice cream with none of the calories, and you get the picture. While your feline pal might not sit still while you look for the Jacobson's organ, you can tell when the cat is using it. Fluff will adopt a behavior known as the flehmen response, a lip-curling procedure that looks like a cross between a guard dog grimacing and a wine steward sampling the bouquet of a 1959 Chateau Lafite-Rothschild.

Nose. Regular smelling is, of course, done through the nose, the twitchy, leathery outer part of which is known as the **planum nasale** (D). A split runs down through the planum nasale, eventually separating the cat's upper lip into two parts, and this is called the **philtrum** (E). The philtrum may be the reason why, back to the dawn of history, there is no record whatsoever of a cat with the ability to whistle.

Ears. Open a can, or rustle a package of cat food, and your cat will no doubt be all ears.

The part that sticks up radar-like (or lies folded over, in the case of Scottish Folds) is the **pinna** (F). Peer down at the base of the pinna and you'll see the convoluted opening of the **external auditory canal**. This makes a turn after an inch or so. Further around

the corner of the external auditory canal, and pretty much out of sight, is the **tympanic membrane**, better known as the eardrum. Behind this lies the rest of a delicate mechanism that can pick up the sound of the refrigerator door opening from three rooms away.

Paw. If your companion is typical, by this point there is a front paw coming over the top of this newsletter, trying to get you to pay a little attention to *Number One*. You can take advantage of this and do a brief examination of Fluff's combination hand, foot, landing gear, weapon, hockey stick and litterbox rake. The toes are, like your fingers and toes, formally known as **digits**. Interestingly enough, what you probably know as the "fifth toe" — the thumb-like one on the side — is actually the first digit, and the rest of the digits are numbered in order from, one through five. Fluff's claws are growing from a tiny bone called the **distal phalanx**, which hinges on the bone behind it and can, by means of attached ligaments, sheathe or unsheathe the claws, allowing its owner to go from pussycat mode to panther.

The "toe pads," since they are on the digits, are called **digital pads** (G) (share that one with your computer-literate friends), and the "palm pad", being located under the metacarpal bones, is actually the **metacarpal pad** (H). The toe-palm comparisons sort of fall apart when you get to the **carpal pad** (I), which, although it is in an area that corresponds roughly to the heel of your hand, is so high up on the leg that it does not touch the ground when the cat is at rest. This pad comes into play when the cat is landing after a jump, bonding over uneven terrain, or making a leap for some flitting target. Contrary to the way it sounds, the carpal pad is not found under the rug — unless Fluff is going after an errant catnip mouse.

So, the next time you're late in getting up to serve breakfast, you'll know that it's the **planum nasale** being pressed coldly against your forehead to wake you up, the **filiform papillae** rasping over your eyebrows if you try to pretend you're still asleep, and (once you're up) the **digital pads** slapping at the cupboard, to remind you where you put the cat food. But at least one thing's still the same, and that's the term for how you and Fluff feel about having one another around.

After all, there is no scientific term for *satisfaction*.

Drawings by Victoria Pearson. ■

In the News ...

Are Ultrasonic Flea Collars Effective?

According to a report in the *FDA Veterinarian* (Vol. 5, No. 1), Dr. Michael Dryden, veterinary parasitologist at Purdue University, stated that there are no published scientific papers in veterinary journals which support the effectiveness of ultrasound flea collars. However, there have been several published reports on the ineffectiveness of ultrasound flea collars in decreasing flea viability and repelling fleas from animals.

The sound emitted by the flea collars is in the 40 kHz range, above the human hearing range but within the hearing range of cats. Currently it is unknown if the sound could be harmful to a cat's hearing and/or behavior.

Dr. Scott Receives Award

Each year at the annual meeting of the American Animal Hospital Association several awards are presented to those veterinarians who have made a difference in the veterinary profession. Dr. Fredric Scott, director of the Cornell Feline Health Center, received the 1990 Carnation Award for outstanding achievement in feline medicine. The presentation was made at the opening ceremony on March 26 at the San Francisco Marriott Hotel.

Mail Bag

Q. When my cat lifts her head up from eating breakfast, her eyes are teary. What causes this? It only occurs in the morning, not after she's had dinner. She's an eight-year-old tabby that is fine otherwise.— J.S., New York

A. Assuming your cat eats the same diet for breakfast and dinner, we cannot associate dietary allergies causing the problem in the morning. The tears normally drain from the eyes at such a rate as not to draw attention, but the accumulation of pools of tears at the lid margin or tears wetting the facial hairs are abnormal.

The first concern is whether the tear production is normal or abnormal, the second concern is tear drainage routes. Since the accumulation seems only in the morning, the problem is most likely with drainage routes. Overnight mucous strands generally collect in the pockets of the lower lids to occasionally plug the small openings responsible for normal drainage. During the day, your cat may open these ducts by tearing and cleaning herself.

Increased mucous accumulations are sometimes associated with environmental causes, infection, trauma, or anatomical abnormalities.

I recommend allowing your veterinarian to evaluate the tearing, duct openings and nasal-lacrimal duct by applying a stain onto the eye and observe the dye flow. If the tear flow route is obstructed, the ducts can be flushed open or made larger. Your veterinarian can also advise you if medication is needed to decrease inflammation.

Q. We are frequently asked about home remedies for the control of fleas. Specifically, do things such as brewer's yeast, garlic, or vinegar rinses have any effect in controlling fleas on cats or dogs? — W.A., Iowa

A. Brewer's yeast and garlic have been used as flea repellants. However, controlled studies have shown those products along with several others—while in common usage—are not effective. The veterinarian should be hesitant to recommend any such products until it has been shown that they are effective. Vinegar rinses may help wash off adult fleas, but soap and water will do the same.

Q. I've been feeding a few strays. Could you please tell me more about an oral contraceptive called progesterone. I have read about it. Is it available or will it be soon? My heart breaks to think about unwanted litters. — J.G., Michigan

A. Presently, there is no oral contraceptive available for use in cats in the United States. In Europe and Australia oral and injectable progestins (e.g. progesterone) have been used to control estrus in female cats. However, the side effects of prolonged and indiscriminate progestin therapy may produce a Cushingoid syndrome or diabetes, and can lead to cystic endometritis, enlarged mammary glands, and possible mammary gland tumors. Currently, the preferred way to prevent unwanted kittens is to spay or neuter cats.

If you would like your question answered in this column, please send it to: POC/Mail Bag, Cornell Feline Health Center, College of Veterinary Medicine, Ithaca, NY 14853-6401.

Subject Index

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