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NEWSLETTER

Feral/Stray Cats, Shelters and Multiple Cat Households©

Evelyn E. Zuckerman, Editor **Winter 2017** **Vol. 16, Number 1**

In This Issue:

In the winter 2017 issue of the NVL Newsletter we will discuss the biology of multiple cat households originating from feral and stray cats, often passing through shelters, and eventually into multiple cat households. Stray and feral cats are the original reservoirs for *Bartonella*. *Bartonella* are the most prevalent zoonotic feline pathogen and the major reservoir for these bacteria are cats exposed to flea infestation. The rise of feral/stray unowned cat populations is leading to more *Bartonella* infected cats as a source for infection of fleas.

Introduction:

Most multiple cat households (MCHHs) are populated with cats derived as feral, stray, outdoor, street, alley and unowned cats who often pass through animal shelters. We have studied MCHHs ranging in number from 2 to more than 150 cats. Needless to say, MCHHs are fertile grounds for infectious pathogens such as *Bartonella*, feline leukemia virus (FeLV), and feline immunodeficiency virus (FIV) due to crowding of cats and sharing of fleas.

Outdoor Cats:

The pet cat has been domesticated, to some extent, but still retains many of it's original instincts such as it's hunting propensities. This ancient trait makes them likely to roam and desire to live outdoors much of their life.[1-3] Outdoor cats are pet cats whose owners let them go outdoors, or they may be feral or stray "community" cats who live outdoors. We will use the term "**Outdoor Cats**" in this Newsletter to encompass all cats who are not strictly kept indoors at all times. Although community cats aren't owned, they are often fed by people.[4] Pure breed cats, such as Siamese, Abyssinian, Persian, Maine Coon, etc. are usually not found as outdoor, stray or feral cats.

"Outdoor Cats"

Feral Cats:

A feral cat is an outdoor cat that has been born to other feral or stray cats and is unaccustomed to human interaction.[4]

PROPOSED DEFINITION:[5] "A feral cat is proposed by this study to be a cat that is unapproachable in its free-roaming environment and is capable of surviving with or without direct human intervention, and may additionally show fearful or defensive behaviour on human contact." Feral cats are usually considered to be distinct from stray cats, which are socialized cats who no longer live in homes, but could potentially be reintroduced successfully.[4,6]

While feral cats are socialized to their colony members and bonded to each other, they are not socialized to people. Feral cats can be seen by people who feed them, but strangers may not realize they are living in their neighborhood because they rarely see them. Strays are much more apparent, may vocalize and even approach people in search of food or shelter. Stray cats can join a colony or defend a territory of their own.

Feral Cats

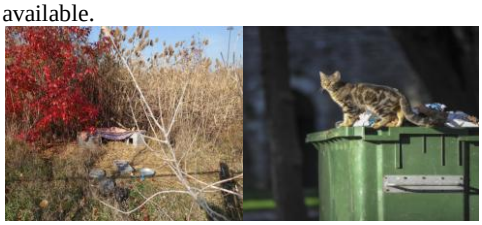
Feral cats, as with all cats, due to the likelihood of flea infestation and lack of veterinary care, are more susceptible to diseases and infections.[7] *Bartonella* was the most common pathogen found in feral cats in Northern Florida.[8]

Stray Cats:

Pet and stray cats are socialized to people. Stray cats are pet cats who have been lost or abandoned. They have lived with people and may still be acclamated enough to be adopted. Stray cats may return to their owners or be adopted into new homes, but feral cats are difficult or impossible to adapt to living as pets with people. If the kittens of stray or feral cats don't have early contact with people, they will become feral and too fearful to be handled or adopted. Female cats can become pregnant as early as 3.5 months of age, thus the number of feral cats can rapidly increase if they aren't spayed or neutered. Stray cats are often found and taken directly into MCHHs or are taken to shelters where they may eventually be adopted into MCHHs.

Community Cats:

Community cats typically are unowned cats, stray and feral, that live in a colony of related cats. The colony lives in and defends a specific territory where food (a restaurant dumpster or a person who feeds them) and sheltered area (beneath a porch, in an abandoned building, etc.) are available.



Stray or feral community colony

Common Pathogens of Outdoor Cats:

- *Bartonella* spp.
- *Toxoplasma gondii*
- FeLV
- FIV
- Feline coronavirus
- *Ehrlichia* spp.
- Plague
- Rabies
- Parasites- external & internal
  - Fleas
  - Ticks
  - Mites
  - Nematodes
  - D. immitis
- Rickettsia
- Respiratory Pathogens:
  - Feline herpesvirus type 1
  - Feline calicivirus,
  - Chlamydia felis
  - Mycoplasma felis

Problems with Outdoor Cats:[4]

The Humane Society of the United States has outlined how **outdoor cats** can create problems by "nuisance behaviors, such as urinating and defecating in someone's yard or garden, digging in someone's yard or garden, jumping on someone's car and upsetting an owned cat, are the greatest concerns that the general public has about outdoor cats. Overpopulation is a serious concern as well. In the United States, approximately 2 percent of the 30 to 40 million

community (feral and stray) cats have been spayed or neutered. These cats produce around 80 percent of the kittens born in the U.S. each year. Although 85 percent of the estimated 75 to 80 million pet cats in the U.S. are already spayed or neutered, many have kittens before they are spayed or neutered. Those kittens, especially if they are allowed outdoors, add to the number of outdoor cats and the problems associated with them."[9]

In addition, the damage to wildlife by outdoor cats is significant. In a Report by Nature Communications "Here we conduct a systematic review and quantitatively estimate mortality caused by cats in the United States. We estimate that free-ranging domestic cats kill 1.3–4.0 billion birds and 6.3–22.3 billion mammals annually. Un-owned cats, as opposed to owned pets, cause the majority of this mortality. Our findings suggest that free-ranging cats cause substantially greater wildlife mortality than previously thought and are likely the single greatest source of anthropogenic mortality for US birds and mammals."[9]

Animal Shelters:

Animal shelters and rescue groups try to control the problems caused by unwanted pet cats and outdoor cats but their efforts, though admirable, seem overwhelming. A large study if 195,387 cats, surrendered by the general public to 33 Australian animal shelters, found that most admissions were either stray cats or owner-surrenders, and more were kittens than adults.[10] The most common reason for surrender was lack of availability for cats living in accommodations and not behavioral problems. Most kittens were surrendered simply for being in excess, too many to house by the owners. Most cats surrendered, although having been spayed, have had a litter. Since cats can have their first estrus at 3.5 months, delaying spaying can have a serious effect on the unwanted cat populations. These facts call into question the practice of trap-neuter-release programs on reducing the outdoor cat populations. In addition, people working with these cats expose themselves to numerous zoonotic pathogens such as rabies virus, ringworm and *Bartonella* among others. *Bartonella* was the most common pathogen found in cats adopted from a shelter in San Francisco.[11]

Multiple Cat Households:

By definition, MCHHs are households with 2 or more resident cats. The definition may be stretched to include a household with 1 resident cat and a backyard where the owner feeds "outdoor" cats, especially if the resident cat is allowed to go outdoors. The extreme version of MCHHs are the cat hoarder households that usually result in the worst crowding and sanitary conditions and many sick residents. Many adoptable shelter cats end up in MCHHs and are a major source for the 3 common feline pathogens. In this regard, we tested 1,461 healthy stray cats, adopted into MCHHs, and found a low prevalence of FeLV and FIV but a very high prevalence of the zoonotic pathogen *Bartonella* (see Table 1). These pathogens may be found in healthy cats showing no clinical signs of infection but who are sources for the transmission to other cats, or to their owners in the case of *Bartonella* carriers.

Table 1

Tests Results for "The 3" Common Feline Pathogens in 1,461 Healthy Stray Cats

Pathogen	No. Positive	% Positive
FeLV (IFA)	8	0.6%
FIV (WB)	72	4.9%
Bartonella (WB)	526	**36%**

All tests were performed by NVL.

Multiple Cat Household

Veterinarians:

Veterinarians often work with or have shelter, rescue, hoarder, or MCHH clients. Thus, they must be aware of the number of cats residing in each setting. Some owners may not volunteer the number of cats in their households which may leave the veterinarian in the dark about the potential for infectious diseases in that household. Thus, veterinarians may not be aggressive in their recommendations for testing ALL cats in MCHHs for the 3 common feline pathogens, FeLV, FIV and *Bartonella*. Small animal veterinarians need to practice "herd health" to protect cats living in MCHHs. In this regard, we have tested owned cats that originated as strays and non-stray pure breed cats for the 3 common feline pathogens (see Table 2). As expected, the stray cats had a higher incidence of all 3 pathogens, however our data found fewer cats infected with FeLV than was previously reported.[12-16]

Table 2

+ Tests Results for "The 3" Common Feline Pathogens in 216 Non-Stray & 3,311 Stray Cats

Pathogen	n=216 Non-Stray	n=3,311 Stray
FeLV (IFA)	1 0.5%	63 1.9%
FIV (WB)	5 2.3%	254 7.7%
Bartonella(WB)	41 19%	1,528 46.2%

All tests were performed by NVL. Non-stray= Siamese, Abyssinian, Persian & Maine Coon

Conclusion:

MCHHs are common and veterinarians must consider practicing "herd health" making sure all cats are examined, vaccinated, tested for the 3 common feline pathogens, and provide a workable flea control program for all the cats (and dogs). Since *Bartonella* is more common in MCHHs, discussion of *Bartonella* testing and management, related to cat AND human (zoonotic) infections, should be part of veterinary "herd health."[17] There is no therapy for FeLV or FIV infections but effective *Bartonella* therapy exists for infected cats.[18]

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***Bartonella* references can be obtained at:**
www.nlm.nih.gov/ or natvetlab.com