

## **The social system of urban stray cats: their life, Italian laws, stray cat management and its consequences.**

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Domestic cats (*Felis s. catus*) live at higher densities than their ancestor, the wild cat, (*Felis s. lybica* or *Felis s. silvestris*) which is a solitary species. Their social life has been extensively studied in the urban environment and scientists have described the main characteristics of it:

- co-existence of several males and females on the same territory defended against intruders of the same species at high density (up to 4000 cats/km<sup>2</sup>);
- the social unit of the group consists of kin-related females and their offspring;
- there is friendly behaviour among adult individuals of the group, but only tolerance among adult males;
- adult females cooperate in rearing offspring;
- individuals recognise each other by mean of odours;
- there is no female choice for courting males;
- there is a linear dominance hierarchy among males and among females but moderate intra-specific aggressive behaviour among adult males to allow group living;
- infanticide as a reproductive strategy from strange adult males has not been recorded in the urban environment.

Why are urban domestic cat social? In 1983 David Macdonald proposed the 'Theory of resource dispersion' for opportunistic species like rats, mice, foxes, starlings, gulls, cats, etc.). The theory says that where trophic resources are clumped and abundant, costs of sociality are lower than benefits and, thus, the individual belonging to that species live as social animals. On the contrary, where they live on scarce and uniformly dispersed trophic resources, like small preys, they live solitarily. In Italy, the urban environment feral domestic cats are overfed. This phenomenon, characteristic of the urban environment, influences domestic cat population density, spacing pattern, social organisation and mating system.

In Italy, the control of the demography of free-ranging cat colonies, is accomplished by national (no. 281 come out in 1991) and regional (no. 63 and 34, come out in 1988 and 1997, respectively) laws, through "trap, spay/neuter and release" programs. These laws represented a "revolution" for the management of dogs and cats because they established that: free-ranging/stray cats cannot be euthanised unless they are incurable or proven to be dangerous; they have the right to live free; they have to be neutered by the local Public Veterinary Services and reintroduced in their colony; urban free-ranging cats cannot be abused or moved from their colony; cat-lovers, gathered in Associations, can and should, be registered in a regional roll. Once registered, in agreement with the Public Veterinary Service and the Office for the Animal Welfare of the territory, they can have the official assignment of the management of a cat colony but the maire remains the responsible (the "owner") of the cats.

In Rome, from 1991 to 2000, almost 8,000 cats were neutered. The tendency seems to be the decrease of number of cats, and number of cats/colony. Nevertheless, given the vast neutering campaign, one would expect a greater decrease in number of free-ranging

urban cats. In reality, although many cats are neutered, some are introduced in colonies mainly by abandonment of pets. The situation cannot be improved if Italian citizens are not educated not to abandon pets born in their houses.

In our experience, the goals reached by "trap, spay/neuter and release" programs as method of control of free-ranging cat demography are: the disturbance due to the bad smell due to cats' sprayed urine, the vocal duels of competing tomcats and the disturbance due to vocalisations of females in oestrus decrease (and, consequently, also the complains of citizens for it); tomcats are less exposed to risk of being killed by cars because they wander less. On the other hand, the general level of cat activity, after neutering, unnaturally decreased.

In conclusion, other the Rome model, there is already enough experience in the world concerning dog and cat management to say that when regular killing of animals was employed in their control, it never reached the goal. Only when there was a massive campaign of sterilization and vaccination, animal populations were stable.

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