

Cats versus rats in the Eternal City (Rome, Italy)

Mauro Grano

Via Valcenischia 24, 00141 Rome, Italy; ORCID: 0000-0001-8188-6234 - e-mail: elaphe58@yahoo.it

ABSTRACT Since ancient Rome (Italy), cats have lived together with man in a marked commensalism. The story of a great Mayor and a candidate for Mayor for this city in the last years has characterized the marriage between cats and rats in the streets of the Eternal City.

KEY WORDS *Felis catus*; urban wildlife; Rome.

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INTRODUCTION

100 years ago, on April 09, 1921, Ernesto Nathan, one of the most enlightened and efficient mayors that the city of Rome has had, died. Born in London in 1845 to Jewish parents, he was elected mayor in 1907, confirmed in 1911 and remained in office until 1913. He was responsible for the first Town Plan of the city, the construction of 150 kindergartens for children and numerous other important municipal structures still in operation. His administration was characterized by an extreme clarity of the budget and a strenuous fight against corruption. Patriot and great admirer of Giuseppe Mazzini, in 1915, at age 70 he volunteered to participate in the First World War. A now famous anecdote tells that, when newly elected mayor, Nathan was presented the budget of the municipality for signature. Nathan examined it carefully and, when he read the entry “*offal for cats*”, asked for an explanation from the official who had brought him the document. The latter replied that these were funds for the maintenance of a large feline colony which was used to defend the documents kept in the offices and in the Capitoline archives from mice. Nathan took the pen and deleted the item from the balance sheet, explaining to his astonished interlocutor that from now on the cats of the Capitol

would have to feed on the captured rodents and, if they found no more mice, it would also come to end the purpose of their presence.

The Roman saying “*Nun c'è trippa pe' gatti* [There is no tripe for cats]” would derive from this episode, now widespread throughout Italy and which represents an expression that is used, in times of difficulty, when it means that there is very little or no hope of being able to have what you are trying to achieve. This intuition of Nathan, dictated above all by economic needs, has had confirmation from the scientific point of view; indeed, as domesticated animals, cats are well adapted to survive thanks to pantry people (Montague et al., 2014).

The domestication of cats and the abundance of easier-to-obtain alternative foods raises doubts on the penchant of cats to prey on city rats and kill their numbers (Parson et al., 2018). Even one of the candidates for mayor of Rome who recently proposed the import of 500,000 cats from the Orient, mostly from North Korea, to eradicate the plague of the rats in the city, is probably not aware of the enormous environmental damage that this action would entail.

DISCUSSION AND CONCLUSIONS

The Romans, like the Greeks, used other carni-

vores, such as weasels, marten and pine marten, for the control of mice, but soon realized that cats were easier to domesticate and likes to stay at home. In the 1st century A.D. also in Rome, as previously in Egypt, severe laws were introduced aimed at protecting cats for their usefulness against rodents. In Rome, the love for cats was manifested by the rise of various proper names or even surnames with etymology deriving from the word “cat”: Felicula, Felicia, Felicla (kitten), Cattus, Cattulus (cat, kitten), but even Catia and Cattius. An example is constituted by a funerary stele found near Porta Pia that a Roman matron, Calpurnia Felicla, she had sculptures for herself and her husband Germullus. Under the inscription there is a bas-relief of a cat with thick fur, standing and with the tail bent upwards. The most significant inscription concerning the cat in Rome dates back to 144 AD and comes from Campo Pretorio; from this we learn that the sixth centurion of the first coorte of the guard was called Catti namely “the cats”. In addition, the department of the Roman army of the Ordines Augusti had on its shields the image of a red cat, and that of Felices Seniores exhibited a green cat. In his *Naturalis Historia*, Pliny the Elder tells of the great skills of cats in hunting mice. In Rome, a temple was established that stood where the Church of Santo Stefano del Cacco is currently located, in the Pigna area, here was found the small statue of the cat from Tempio di Iside at Campo Marzio which is still visible today on Palazzo Grazioli, at the corner of Via della Gatta. Moreover Piazza Grazioli, was once called Piazza della Gatta [literally Cat’s Plaza]. The advent of Christianity was a real calamity for cats. In the Christian thought of sin and atonement, even animals were divided between beneficial and evil ones. Cats re-entered the latter, guilty of being nocturnal creatures and therefore demonic. Religions have always seen this feline as a source of sin, accusing it of bringing with it all possible evils. During this obscurantism’s era, mainly black cats were targeted. Pontiff Gregorio IX (1170–1241) declared in his papal bull of 1233 that blacks cats are descendants of Satan, and a real extermination of these creatures began, as they were tortured and burned alive in order to drive out the devil. The hunt for witches and cats continued throughout the Middle Ages. Only in the rural communities furthest from Rome and from urban agglomerations in general, the cat was saved and continued to be irreplaceable for

hunting mice. The extermination of cats, however, soon brought dramatic consequences: since the historical hunter of mice no longer existed, the rats proliferated dramatically and brought with them the diseases that would later kill countless people for a long time. In today’s Rome, cats have always been present and well-liked by the citizens, some Feline Colonies still exist: one of the many, the historical one of Torre Argentina, where cats are cared and fed by the “*Gattare*” [Cat Ladies]. Before the advent of specific foods for animals, cats were fed only by waste meat. The “*Carnacciaro*” was an ancient profession exercised in Rome until the first half of the XX Century. This figure sold and distributed *carnaccia*, or scraps of meat from butchers, for the dogs and cats of the city. The *carnaccia* was often made up of lung, tripe and entrails, which *Carnacciaro* distributed boiled and shredded. More than a real sale of meat, that of *Carnacciaro* was a distribution that was paid for by the tips of the owners of the animals. It often happened that there was some stray cat that ate the flesh without anyone having paid for him. In other cases, the distribution of the meat took place as a real sale. The *Carnacciaro*, unlike many other itinerant trades then in vogue (Grano & Alcini, 2019; Grano & Di Giuseppe, 2020), did not shout his own slogan to attract attention, also because he often went around in the early hours of the morning. They just whistled and thus attracted the attention of the cats. Over time, the work of *Carnacciaro* disappeared, being replaced, in fact, by that of the *Gattare*. According to Legge (1982) and Clutton-Brock (1988), Davis (1989) also suggests the hypothesis that the domestication of cat is much older than how is traditionally placed during the New Egyptian Kingdom (II millennium BC). It cannot be excluded that a closer relationship between cat and man began to take shape in prehistoric times in areas already conquered by agriculture, by virtue of the ability of the species in capturing and killing small rodents that were attracted to human pantries (Masseti & Vianello, 1991; Masseti, 2008). De Grossi Mazzorin (1997, 2008) indicates the VIIIth Century BC as the date of introduction of the domestic cat in Italy, based on the discovery of bones remains of a specimen inside a building in the town of Fidene (*Fidenae*) in the northern suburbs of Rome. The cat is a carnivore that preys exclusively on live vertebrates, especially voles and mice. Although it can

vary significantly between different areas according to the different environmental availability of the preys, the diet of the species consists mainly of small mammals (Woods et al., 2003; Tschanz et al., 2010; Krauze-Gryz et al., 2012, 2017) and only secondarily of birds, reptiles and invertebrates (Churcher & Lawton, 1987; Lepczyk et al., 2004; Fitzgerald & Turner, 2000; Blancher, 2013; Loyd et al., 2013); it has been estimated that, among cat prey, the percentage of small rodents may exceed 91% (Ragni, 1978, 1981).

This makes the cat a specialist in predation on micro mammals and small rodents in particular (Masseti, 2008). The wide ecological plasticity of domestic cats supports the fact that the domestic cat is on the “100 of the world’s worst invasive alien species” list, with populations increasing worldwide and in a huge variety of habitat types (Loss & Marra, 2017; Pillay et al., 2018; Mori et al., 2019) although the negative impacts of domestic cats are often denied or justified by the public as a form of “natural predatory instinct” (Hall et al., 2016; Mori et al., 2019). Domestic cats have contributed to at least 63 vertebrate extinctions, pose a serious danger to endangered vertebrates around the world, and transmit multiple zoonotic diseases. On continents and large islands, cats are responsible for a very high mortality of vertebrates (Loss et al., 2012, 2013, 2015; Marra & Santella, 2016; Loss & Marra, 2017). Feral cats are able to impact the dynamics of their prey populations, but there is much stronger data indicating that cats influence native wildlife (Woods et al., 2003; Baker et al., 2008; Kauhala et al., 2015; Kikillus et al., 2017) than city rats. For example, in Australia (Davies et al., 2017), New Zealand (Flux, 2007) and USA (Loss et al., 2013), cats represent the greatest source of anthropogenic mortality for native birds and mammals. Cats are estimated to kill between 100 and 350 million birds per year in Canada (Blancher, 2013) or 2.4 billion birds and 12.3 billion mammals annually in the United States (Loss et al., 2013). However, cat population management has traditionally been controversial and usually involves demonstrating that cats reduce the size of the prey population. In addition to predation, cats affect vertebrate populations through disease and fear-related effects, and reduce population size, suppress vertebrate population sizes below their respective carrying capacities, and alter demographic processes (Loss & Marra, 2017).

Free-ranging domestic cats may be active throughout the day and the night (Cove et al., 2018), therefore potentially affecting spatiotemporal behavior and the abundance of diurnal and nocturnal species (Parsons et al., 2018; Mori et al., 2019). Despite these risks, cats are commonly released as control agents for city rats (*Rattus* spp.). Cats can influence their prey directly by killing or indirectly through changes to feeding or space-use. However, cats prefer defenseless prey, and there are no data suggesting that cats influence large (>300 g) urban rats (Parson et al., 2018). The problem is that mice weigh 20–35 g (Zielinski et al., 1992) while city rats, especially *Rattus norvegicus*, often weigh 10 times as much (Parsons et al., 2017; Combs et al., 2018).

Fortunately, the proposal made in recent years to introduce cats into the city of Rome was not implemented. Indeed, in the city of Rome, as in the rest of the world, cats continue to represent a concrete problem for all small fauna.

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