

Direct interaction between an Egyptian Mongoose (*Herpestes ichneumon*) and a domestic cat (*Felis catus*)

Interacción directa entre un meloncillo (*Herpestes ichneumon*) y un gato doméstico (*Felis catus*)

Javier Rodríguez-Jiménez¹*, Raúl Arroyo-Morales² & Francisco Díaz-Ruiz³

1. Instituto Español de Oceanografía, Puerto deportivo de Fuengirola s/n, 29640, Fuengirola, Málaga, Spain.
2. Universidad de Málaga, Departamento de Biología Animal, 29071, Málaga, Spain. raularroyoamb@gmail.com
3. Universidad de Extremadura, Grupo de Investigación en Biología de la Conservación, Departamento de Anatomía, Biología Celular y Zoología, 06006 Badajoz, Spain. pacodi1480@hotmail.com

* Corresponding author: javier.rodriguez@ieo.csic.es

The observation of direct interactions between different carnivore species in the wild is uncommon, and usually requires many hours of observation in the field (Ruiz-Villar *et al.* 2021). The use of camera trapping as a non-invasive technique for the “direct” observation of carnivores in their natural environment has allowed relevant advances in the knowledge of the biology and ecology of these species (Kays & Slauson 2008, Kelly *et al.* 2012). However, the detection of direct interactions between species, usually competitors, is not common and is barely reported in the scientific literature. In this note, we document the direct interaction between an Egyptian Mongoose *Herpestes ichneumon* (Linnaeus, 1758) and a domestic cat *Felis catus* Linnaeus, 1758, obtained by camera-trapping in a municipality in the province of Málaga (Spain).

The observation took place in the neighbourhood of Villafranco del Guadalhorce, municipality of Alhaurín el Grande (Guadalhorce river valley), on 20 December 2021 (coordinates 36.69°-4.69°). The surrounding area is characterised by the presence of recreational villas and second homes, which are plots of about 2,500 m² perimetrically fenced, numerous access roads and areas of agricultural crops (orange and olive trees) with little natural vegetation cover.

The interaction was recorded using a camera trap (Yiwa, model PR-100 Wildlife) installed inside a private fenced plot, with the aim of identifying which animal was causing damages to the property's henhouse and preyed on poultry. The camera was programmed to take a burst of three photographs and a 10-second video once the triggered mechanism was activated. The camera remained

active uninterruptedly 24 hours per day for one week (12/19/2021 - 12/26/2021).

The observation took place at 19:00h on 20 December 2021 (video: <https://youtu.be/PDqeVB7fUC0>). First, a domestic cat was observed eating the bait used as an attractant (sardine paste) and a mongoose appeared in the background of the image (Fig. 1A). Next, the mongoose approached the cat, which stares without showing any type of alert or aggressive behaviour (Fig. 1B). Finally, the two species were found eating in the same place, just a few centimetres away from each other (Fig. 1C). During this interaction, which lasted approximately 15 minutes, both species always remained together (~30 cm), showing no signs of aggression, competition, or rejection.

To our knowledge, this is the first documented direct interaction between these species. The non-aggressive nature of this interaction is a striking fact for potentially competing species that usually develop aggressive behaviours associated with the defence of the territory and trophic resources (Palomares & Delibes 1993, Harrison *et al.* 2011). Similar interactions have been described in cat colonies in the United States, between domestic cats and Raccoons *Procyon lotor* (Linnaeus, 1758) and Desert foxes *Vulpes macrotis* Merriam, 1888, although in these interactions cats tended to exhibit aggressive behaviours towards these competitors that came to feed at the cat colonies (Harrison *et al.* 2011, Hernandez *et al.* 2018). Recently García-Díaz (2021) described an interaction between a domestic cat and a family of Eurasian Otters *Lutra lutra* (Linnaeus, 1758) in a river in Aberdeen

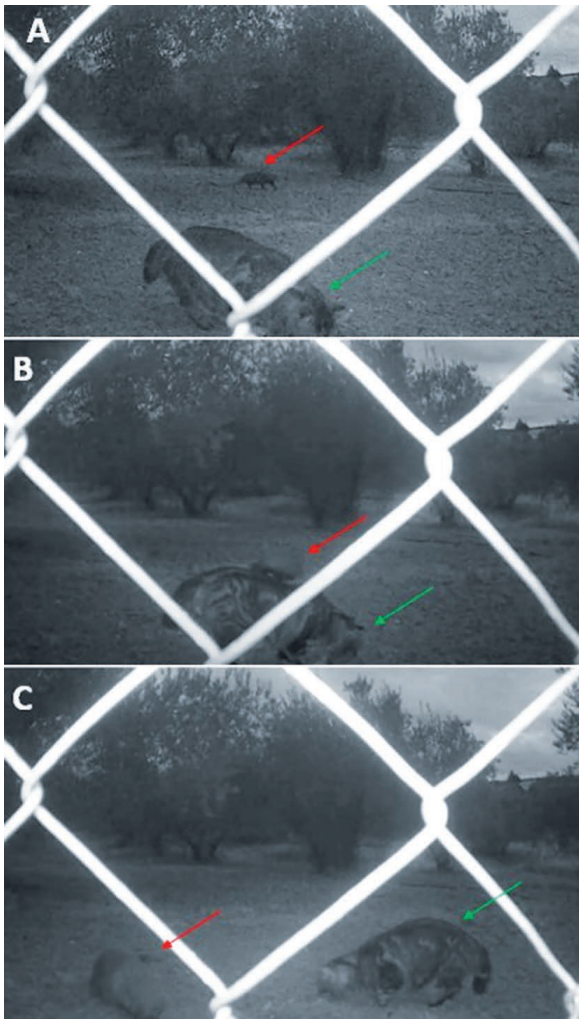


Figure 1. Photographic sequence of the interaction between a mongoose (*Herpestes ichneumon*) (red arrows) and a domestic cat (*Felis catus*) (green arrows): (A) cat feeding without noticing the presence of the mongoose, (B) approaching the mongoose food and (C) both individuals feeding next to each other.

(United Kingdom), in which he described behaviours of curiosity between both species, with no signs of aggression, although there was no food to compete for. The non-existence of aggression in our observation could be indicative that such encounters are relatively common, and that both species (at least the individuals observed) have reached a certain degree of mutual tolerance, to the extent of sharing food in situ. Cats are widespread in the study area, because they are maintained by the residents who provide them with food and water continuously (Javier Rodríguez, personal observation), so it is expected that this type of direct interactions with wild carnivore species could be more common than documented.

This observation highlights a potential high risk of transmission of pathogens and parasites between both species via direct interaction. An example of a shared pathogen is the feline panleukopenia virus, which is a risk for the conservation of endangered species such as the Iberian lynx *Lynx pardinus* (Temminck, 1827) or the Wildcat *Felis silvestris* Schreber, 1777 (Duarte *et al.* 2013). Furthermore, both species are reservoirs of pathogens of zoonotic diseases such as leptospirosis that affects humans (Millán *et al.* 2009).

These types of interactions between wild and domestic carnivores are likely to increase with the increase in urban sprawl (Medina-Vogel 2010, Plaza *et al.* 2019) and the increasingly common presence of feral cat colonies in these peri-urban environments in Europe (Crawford *et al.* 2014). The uncontrolled presence of feral domestic dogs and cats in these peri-urban environments should be more supervised and controlled by the competent authorities to reduce the risks for wildlife, and even for public health associated with this type of direct interactions.

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