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Source: *Annales Zoologici Fennici*, 53(1–2):91–102.

Published By: Finnish Zoological and Botanical Publishing Board

DOI: <http://dx.doi.org/10.5735/086.053.0208>

URL: <http://www.bioone.org/doi/full/10.5735/086.053.0208>

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Can cage-trap performance in capturing red foxes be improved by using different baits and scent attractants?

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Received 20 July 2015, final version received 17 Dec. 2015, accepted 29 Dec. 2015

Díaz-Ruiz, F., Delibes-Mateos, M. & Ferreras, P. 2016: Can cage-trap performance in capturing red foxes be improved by using different baits and scent attractants? — *Ann. Zool. Fennici* 53: 91–102.

Cage-trapping is one of the control methods frequently used by hunters to remove red foxes (*Vulpes vulpes*) in Spain, although its low efficiency and selectivity have been frequently reported. We tested the effect of the combinations of two bait types (live/dead) and two scent attractants (fox urine/valerian extract) in order to improve the efficiency and selectivity of cage traps in central Spain. The combination of live bait and fox urine increased the efficiency of cage traps to capture red foxes in comparison with live bait alone. None of the experimental treatments led to a significant reduction in the capture rate of non-target species, selectivity levels were always low (0%–21%) and non-target species were captured. In view of that, the burden of releasing captured non-target animals depends ultimately on the trapper. For this reason, the use of cage traps is still questionable for managing foxes in Spain.

Introduction

The lethal control of predators is relatively widespread all over the world (Treves & Karanth 2003, Woodroffe *et al.* 2005) because humans usually see these species as competitors for shared, limited resources, such as game species (e.g. Valkama *et al.* 2005) or livestock (e.g. Treves *et al.* 2004, Sangay & Vernes 2008). In Europe, intensive predator removal has resulted in local extinctions of several species of conservation concern, and massive contractions of the geographic ranges of many others (e.g. Whitfield *et al.* 2003). Species of conservation concern

are often removed by predator control activities because either some legal methods are not selective (e.g. Duarte & Vargas 2001, Way *et al.* 2002) or some managers employ illegal, unselective methods, such as poisoning (e.g. Whitfield *et al.* 2003, Márquez *et al.* 2013).

Generally the removal of predators causes intensive social conflicts that involve conservationists, scientists and other stakeholders (Woodroffe & Redpath 2015). In the management of such conflicts, success occurs when the outcome is acceptable to all sides and when neither party is asserting its interests to the detriment of others (Redpath *et al.* 2013). In view of

that, a total ban of predator control would not be the best way to minimise conflicts between, for example, hunters and conservationists over predator management. In this regard, finding efficient and selective methods to legally reduce the numbers of some generalist/opportunistic predators could help to reduce these tensions between hunters and conservationists.

In Spain, hunting is a valuable socioeconomic activity, and one of the most widespread rural leisure activities; nearly 80% of the territory is covered by hunting estates (Arroyo *et al.* 2012). Spanish hunters and game managers employ several management tools to boost the numbers of small game species like European rabbits (*Oryctolagus cuniculus*) or red-legged partridges (*Alectoris rufa*) (Arroyo *et al.* 2012). The use of predator control is widespread in some Spanish regions (Delibes-Mateos *et al.* 2013, Díaz-Ruiz & Ferreras 2013). Red foxes (*Vulpes vulpes*), feral cats (*Felis catus*), dogs (*Canis lupus familiaris*), and magpies (*Pica pica*) are the main predators legally controlled in Spain (Díaz-Ruiz & Ferreras 2013). Nevertheless, the illegal removal of some predators of conservation concern, including raptors and carnivores, has frequently been reported (e.g. Villafuerte *et al.* 1998, Márquez *et al.* 2013).

Spanish hunters often demand more effective methods to cull predators, especially red foxes, based on their belief that current legal methods of predator control are inefficient. For example, the efficiency of cage-traps, which are one of the most frequently employed methods to legally control foxes, is usually questioned (Delibes-Mateos *et al.* 2013). In fact, scientific studies have shown that it is extremely low; capture rate ranges between 1.2 and 5 foxes per 1000 trap-nights (Herranz 2000, Duarte & Vargas 2001, Muñoz-Igualada *et al.* 2008). In addition, these studies have also revealed that the low selectivity of this method is far from the standards acceptable by conservationists. If cage trapping is to be used for fox control, it requires finding ways to improve both its efficiency and selectivity, given that these are not currently acceptable either for hunters or for conservationists.

In Spain, cage traps aimed at removing red foxes are usually baited with live animals (e.g. game birds), and are used without scent attractant (Duarte & Vargas 2001, Muñoz-Igualada *et*

al. 2008). In this context, exploring the combination of different bait types and scent attractants may help to increase the efficiency and/or selectivity of the traps. This expectation is based on two facts: (1) not all Iberian carnivores respond equally to different scent attractants (Monterroso *et al.* 2011), and (2) some Iberian carnivores feed exclusively on live prey (e.g. the European wildcat (*Felis silvestris*); Lozano *et al.* 2006), while others can also frequently scavenge (e.g. red fox; Díaz-Ruiz *et al.* 2013).

In this paper, our goal was to assess for the first time whether the combined use of different baits and scent attractants increase the selectivity and efficiency of different cage-trap types to capture red foxes in comparison with the traditional fox control method (i.e. live-bait only).

Material and methods

Study areas

Fieldwork was performed at three sites in central Spain (Ciudad Real province; one private and two public estates) during 2003, 2006 and 2007 (Table 1). The climate at the locations is typically Mediterranean, characterised by wet, mild winters and warm, dry summers with a marked drought period (source: <http://www.globalbioclimatics.org/form/maps.htm>). The landscape at the study sites is Mediterranean scrubland (mainly *Cistus* spp. in combination with holm oak, *Quercus ilex*, forests), mixed with cereal croplands, riparian habitats, 'dehesas' (pastureland with a savannah-like open tree layer, mainly dominated by Mediterranean evergreen oaks), and pine, *Pinus* spp., plantations (Table 1).

The study site selection was based on two criteria: (1) high habitat heterogeneity that favoured wildlife diversity, including both carnivore and avian predators and their prey, which allowed us to assess trap selectivity, and (2) medium to high red fox abundance, which allowed us to test trap efficiency for capturing foxes. The three study sites were situated within the distribution area of several Iberian terrestrial carnivores, such as European wildcat, stone marten (*Martes foina*), small-spotted genet (*Genetta genetta*), Eurasian badger (*Meles meles*) and Egyptian mongoose

Table 1. Description of the study sites. Geographical location, year and season when trapping was performed are shown.

Study site (coordinates)	Year (season)	Surface area (ha)	Main habitat types	Main land uses
Site 1 (38°27'40" N, 03°34'05" W)	2003 (Sep–Nov)	3700	Pine plantations (<i>Pinus pinaster</i>), Mediterranean scrub (<i>Cistus</i> sp.), holm-oak forest (<i>Quercus ilex</i>), and cereal crops	Managed publicly for forestry production and big game
Site 2 (38°58'02" N, 04°08'47" W)	2006 (Jul–Dec)	1000	“Dehesa” (a typical Mediterranean formation of sparse oaks and underlying cereal crops), holm-oak forest with Mediterranean scrub, and riparian vegetation	Managed privately for livestock, cereal agriculture, and big game
Site 3 (39°00'02" N, 04°23'55" W)	2006/2007 (Nov–Mar)	1500	“Mixed” forests of pine (<i>Pinus</i> sp.) and holm-oak with Mediterranean scrub	Managed publicly for forestry, and small and big game

(*Herpestes ichneumon*) (Palomo *et al.* 2007). Our study sites could potentially be occupied also by raptors, such as common buzzard (*Buteo buteo*), goshawk and sparrowhawk (*Accipiter* sp.), Bonelli’s eagle (*Aquila fasciata*), Spanish imperial eagle (*Aquila adalberti*), golden eagle (*Aquila chrysaetos*) or eagle owl (*Bubo bubo*) (Martí & Del Moral 2003). No direct measure of the abundance of species that potentially could be captured in cage traps was initially available. Therefore, nocturnal spotlight-counts were performed chiefly to estimate the fox relative abundance (kilometric abundance index, KAI) at the beginning of the study and during the trapping season (Ruelle *et al.* 2003).

Cage trapping and experimental design

We tested the efficiency and selectivity of three types of cage traps typically used by hunters in Spain for capturing foxes. These types differ in design details: Type CT01 has one entrance, one capture chamber and a cable-door connexion system that is triggered when an animal pulls the bait fixed to the end of the steel cable (Model A; *see* Appendix 1); this trap type was used exclusively with dead bait. Type CT02 has two entrances, one capture chamber and a lateral bait chamber. Type CT03 has two entrances, two independent capture chambers and a central bait chamber. Model B of CT01, CT02 and CT03 cage trap types have a guillotine-type door and treadle trigger mechanism. Commercially available traps of the same type may slightly differ in e.g., dimensions and mesh size (*see* Appendix 1).

We tested several dead and live baits. Dead baits included chicken carcasses and lamb meat, and live baits included common quails (*Coturnix coturnix*), red legged partridges, and helmeted guinea fowls (*Numida meleagris*). Dead baits were placed inside the traps and secured with wire; they were replaced weekly. Live bait were placed in an independent chamber which, depending on the model, was adjacent to, or inside the trap (*see* above and Appendix 1). This chamber was covered with branches to protect animals used as live bait from inclement weather. Food and water was provided *ad libitum* to live animals used as bait.

We also tested two types of scent attractants previously proved as efficient for red foxes (*see e.g.*, Saunders & Harris 2000, Monterroso *et al.* 2011): red fox urine (hereafter FU; obtained from captive red foxes held at the Castilla La-Mancha University facilities) and valerian-extract solution (hereafter VAL), which contains valeric acid found in urine and anal-sac secretions of foxes (Albone & Fox 1971, Jorgenson *et al.* 1978). A piece of chalk was soaked in scent attractants (ca. 1–5 cm³), tied to an iron stick with elastic bands, and driven into the ground inside the cage trap. Scent attractants were replenished every 3–4 days.

At each study site, we followed a randomized-block experimental design (Zar 1999), with the treatment (i.e. the combination of bait and scent attractant) randomly assigned to each trap within a block, regardless of trap type. Treatments were randomly alternated between traps, meaning that each trap received several different treatments. The average effort per treatments was 301 trap-days (range: 72–654). The minimum distance between neighbouring traps was 100 m. Traps were placed near shrubs or other features that may increase the probability of animal presence (e.g. ponds, watercourses, edges of dense vegetation, etc.). Traps were checked each morning, starting at dawn, to avoid keeping captured animals inside the traps for more than 24 hours. Whenever possible, we checked the traps from a distance not to affect probability of capture; we only approached them to add food and water for live bait and to replace attractants.

Animal handling

Both foxes and non-target animals captured were handled by qualified researchers, supervised by wildlife veterinarians. Animals were immobilized with a combination of ketamine hydrochloride and xylazine hydrochloride following doses recommended by Seal and Kreeger (1987). Non-target animals were released at the capture site when they fully recovered from anesthesia and the veterinarian confirmed lack of serious injuries which could have compromised their survival. Red foxes were kept in captivity for

subsequent behavioural experiments. All procedures were approved by the competent authority (Castilla-La Mancha Regional Government; code numbers 02-227/RN-52 and PREG-05-23).

Statistical analyses

The effects of baits and attractants on trap performance were assessed considering the parameters defined by the International Organization for Standardization (1999) for testing restraining traps for mammals. The number of foxes captured per 1000 trap-nights was used to assess trapping system efficiency (Muñoz-Igualada *et al.* 2008). We used two parameters related to cage-trap selectivity: (1) direct selectivity, or the percentage of foxes captured related to the total number of animals captured (including red foxes), and (2) non-target capture rate, or the number of non-target captures per 1000 trap-nights (inversely related to selectivity) (Muñoz-Igualada *et al.* 2008).

Generalized Linear Mixed Models (GLMMs) with a Gaussian distribution of errors and identity link function were used to analyse the effect of different combinations of baits and scent attractants on the efficiency and selectivity of the cage-trap types. The trap with a treatment (i.e. combination of bait and scent) was considered the sample unit. Due to violations of normality and variance homogeneity of standardized residuals, dependent variables (i.e. efficiency and non-target capture rate) were square-root-($x + 1$)-transformed (Zuur *et al.* 2007). Fixed factors included as explanatory variables were: cage-trap type (CT01, CT02 and CT03), treatment (i.e. combination of bait and scent: live-bait only, live bait + FU, live bait + VAL, dead-bait only, dead bait + FU and dead bait + VAL) and study site. The latter was included as a fixed factor because the low number of levels (3) prevented its consideration as a random variable (Zuur *et al.* 2007). Since a given trap received several different treatments, trap location (a categorical variable identifying each trap position in the field, i.e. trap id) was included as a random variable in the models. The 'live-bait only' was used in our models as baseline (i.e. control), since this is the bait combination that hunters traditionally use in cage-traps in Spain.

All statistical analyses were performed using the *lme4* package of the R statistical software (<http://lme4.r-forge.r-project.org/>). The models were obtained with the function *dredge* of *MuMIn* package (<https://cran.r-project.org/web/packages/MuMIn/index.html>) and compared using the AICc criterion (Burnham & Anderson 2002). If no single model accounted for 90% of the total model weights, we calculated the coefficients of predictor variables through model averaging (Burnham & Anderson 2002, Arnold 2010).

Results

Red fox presence was confirmed at the three study sites although relative abundances differed among them. KAI was higher at site 2 (0.26 foxes km⁻¹, 42.4 km surveyed) than at sites 1 (0.016 foxes km⁻¹, 60 km surveyed) and 3 (0.02 foxes km⁻¹, 66.4 km surveyed). The European wildcat was observed only at site 1, (0.016 indiv. km⁻¹), and feral cats only at site 3 (0.03 km⁻¹).

A total effort of 1807 trap-nights resulted in the capture of 6 red foxes and 38 non-target animals of 13 species, including carnivores, raptors, corvids, and other groups. Overall efficiency was 3.3 foxes per 1000 trap-nights, the non-target capture rate was 21 captures per 1000 trap-nights, and selectivity was 13.6 % (Table 2).

The capture rate of foxes was the highest when live bait + FU were used (Fig. 1a). Four models with a total cumulative weight of 93% were included in the model averaging for capture efficiency (Table 3). According to model averaging results, only the combination live bait + FU significantly increased the efficiency of cage traps to capture red foxes as compared with live bait without scent attractant (Table 4). The capture rate of red foxes was higher at site 2 than at the two other sites (Table 4).

Live bait without scent attractant resulted in the highest capture rate of non-target species (Fig. 1b). The traps with dead bait + VAL did not capture non-target species (Fig. 1b). The number of captured non-target wild predators doubled when live bait instead of dead bait was used (13.61 captures per 1000 trap-nights vs. 6.48 captures per 1000 trap-nights, respec-

Table 2. The number of animals captured, and selectivity and efficiency of cage traps at the three study sites. Total sampling effort, estimated as the number of trap nights, is shown. Efficiency is the number of foxes captured per 1000 trap-nights. Selectivity is the percentage of foxes captured related to the total number of animals captured (including red foxes). Non-target capture rate refers to the number of non-target animals captured per 1000 trap-nights. Vv = red fox, Fs = European wildcat, Gg = European genet, Mf = stone marten, Hi = Egyptian mongoose, Mm = European badger, Ag = goshawk, Fc = feral cat, Clf = dog, and Others = black-billed magpie (*n* = 1), azure magpie (*Cyanopica cyanus*) (*n* = 1), wild boar (*Sus scrofa*) (*n* = 1), red-legged partridge (*n* = 19) and European wild rabbit (*n* = 1).

Study site	Year	Trap-nights	Non-target captures										Efficiency	Non-target capture rate	Selectivity
			Vv	Fs	Gg	Mf	Hi	Mm	Ag	Fc	Clf	Others	Total		
Site 1	2003	601	1	0	2	0	2	1	0	0	0	2	7	11.6	12.5
Site 2	2006	712	5	1	1	0	0	0	1	0	2	15	20	28.1	20
Site 3	2006/2007	494	0	1	2	1	0	0	0	1	0	6	11	18.3	0
	Total	1807	6	2	5	1	2	1	1	1	2	23	38	21	13.6

Fig. 1. Average capture rates ($\pm$ SE) (indv. per 1000 trap-nights) for **(a)** red foxes, and **(b)** non-target species captured with cage traps using different combinations of bait (live and dead) and scent attractants (FU: fox urine and VAL: valerian extract) or without them. The live-bait only is traditionally used by hunters in Spain, and was used as a baseline (control) in our models. Mean capture rates for the red fox and non-target species are shown with dashed lines.

tively). Four models accounting for 100% cumulative weight were included in the model averaging for capture efficiency of non-target species (Table 3). According to model averaging results, dead bait + VAL resulted in a slight decrease in the capture rate of non-target species as compared with live-bait only (Table 4). In addition, in comparison with type CT03 type, trap types

CT01 and CT02 reduced the non-target capture rates (Table 4).

Discussion

Our findings confirm the low selectivity and efficiency of cage traps used by hunters to capture

Table 3. Models explaining cage-trap efficiency for capturing foxes, and for capturing non-target animals using different treatments. Site = study site and Treat = combination of bait type and scent attractant. AIC values of the set of GLMMs included a total cumulative weight of at least 0.90.

	Model	df	Log-likelihood	AICc	Δ AICc	Weight
Foxes	Site $\times$ Treat	10	-160.558	344.1	0	0.57
	Site	5	-167.725	346.2	2.12	0.20
	Site $\times$ Treat $\times$ Trap type	12	-159.698	347.7	3.64	0.09
	Treat	8	-165.216	348.3	4.24	0.07
Non-target animals	Treat $\times$ Trap type	10	-199.816	422.6	0	0.49
	Site $\times$ Treat $\times$ Trap type	12	-198.04	424.4	1.81	0.20
	Trap type	5	-206.897	424.6	1.95	0.19
	Site $\times$ Trap type	7	-204.982	425.4	2.81	0.12

foxes in Spain. This is in agreement with results reported in previous studies not only for the red fox in Spain (Herranz 2000, Duarte & Vargas 2001, Muñoz-Igualada *et al.* 2008), but also for other canids in North America (Way *et al.* 2002, Shivik *et al.* 2005). In particular, the capture rate of foxes obtained in our study was similar to that reported in previous studies conducted in Spain (capture rate range: 0–5.56 foxes per 1000 trap-nights; Díaz-Ruiz & Ferreras 2013). Few studies evaluated how cage-traps performance may be improved to capture red foxes. For example, Herranz (2000) showed that live bait increase the probability of capturing foxes. This result is partially supported by our study since cage traps captured more foxes when live bait was used, but interestingly this increase was significantly higher when live bait was combined with fox urine as a scent attractant. This is not surprising as urine is used by foxes for scent marking, and plays an important role in intraspecific olfactory communication and territoriality (Macdonald 1979, Arnold *et al.* 2011), which may incite foxes to enter the traps. In agreement with this, traps baited with conspecific scent improved trapping efficiency of nine-banded armadillos (*Dasypos novemcinctus*) (Martin *et al.* 2014). Nevertheless, Monterroso *et al.* (2011) observed that captive foxes showed more interest in other attractants than in the urine of their conspecifics. This, together with the low number of foxes captured in this study suggests that additional work is needed to confirm our findings and also to test other methods to improve trap performance. The number of captured foxes could be related to their abundance, since the highest number of captures (and capture efficiency) occurred at site 2 where the highest KAI was found. Overall, the fox abundance in the study area was similar to the abundance of this species recorded in other localities within the Iberian Peninsula (KAI range: 0.001–0.47 foxes km⁻¹; e.g. Millán *et al.* 2001, Fernandez-de-Simón *et al.* 2015).

Although non-target species were captured using any of the bait types in combination with scent attractants (except dead bait + VAL), a substantial number of non-target predators were captured with live bait. This agrees with previous works conducted in Spain, since cage-traps baited with live animals generally captured higher

numbers of non-target species, especially carnivores and raptors (Herranz 2000, Duarte & Vargas 2001, Muñoz-Igualada *et al.* 2008). None of the experimental treatments achieved a significant ($p < 0.05$) reduction in the capture rate of non-target species (see Table 4). There were no captures were with dead bait + VAL. Dead bait is unattractive to a large number of predators, those which rarely scavenge (e.g. common genet, wildcat or goshawk [*Accipiter gentilis*]), and to non-target species that feed on other resources (e.g. red legged partridges which were only captured in traps baited with conspecifics). In addition, valerian scent attracts a lower number of Iberian carnivores than other scent attractants (Monterroso *et al.* 2011).

Unlike the findings for foxes, the capture rate of non-target species differed between cage-trap types, being lower for CT01 and CT02 as compared with CT03. These results are likely more associated with the type of bait used rather than the trap type, size and design (see Appendix 1). CT01 traps were used only with dead baits, which overall resulted in fewer captures. CT02 differs from CT03 only in the position of the live-bait chamber (Appendix 1), but we do not know how this design difference could have

Table 4. Model-average coefficients and standard errors (SE) of variables included in the models explaining the efficiency of cage traps to capture red fox and non-target animals. The intercept includes Site 2, live-bait only (which is a traditional predator control method), and CT03 cage-trap type. # $p = 0.06$, ## $p = 0.08$ * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Variable	Red fox		Non-target	
	Parameter	SE	Parameter	SE
Intercept	2.16***	0.62	7.68***	1.05
Site 1	-1.16#	0.62	-0.54	1.15
Site 3	-1.54**	0.51	-0.43	0.86
Live bait				
+ FU	1.93**	0.69	-1.36	1.15
+ VAL	0.19	0.74	-1.75	1.22
Dead bait				
dead bait only	0.00	0.61	-0.58	1.01
+ FU	0.13	0.73	-1.34	1.18
+ VAL	0.16	0.78	-2.22##	1.26
CT01	0.21	0.78	-4.16***	1.16
CT02	-0.05	0.53	-5.55***	0.86

affected the observed reduction in non-target species capture rate.

Recent studies have indicated that reaching acceptable outcomes to mitigate conflicts over methods for capturing animals is possible when research efforts are focused on the study of trap design or the ways they are employed. For example, Short *et al.* (2012) showed that a careful neck snare design improved selectivity without sacrificing efficiency to capture red foxes in the UK. In addition, modifying the cage-trap baiting strategy significantly reduced the recapture rate of an endangered non-target fox species in an island in California (USA), maintaining the capture rate of targeted feral cats (Phillips & Winchell 2011). In our study, the combination of live bait and fox urine improved cage-trap efficiency to capture red foxes, which would likely satisfy hunters' demand. However, this baiting strategy did not reduce the capture rate of non-target species; instead, it produced the highest non-target capture rate of all. In addition, none of the other bait and scent attractant combinations significantly decreased the non-target species capture rate, and in all cases selectivity remained very low (Appendix 2), clashing with the expectations of conservationists. This, together with the small number of foxes captured in our study, suggests that further studies including trap design and baiting are required to satisfy the demands of both hunters and conservationists. Nevertheless, our results may be useful to improve the effectiveness of control strategies in other conservation contexts, where the red fox is an invasive species and the risk for native species to be caught is low. For example, poison baiting is a legal and widespread control method in Australia (Saunders *et al.* 2010), and the use of urine of targeted species as an attractant may contribute to increased bait uptake, therefore improving control effectiveness (*see also* Van Polanen Petel *et al.* 2001).

In conclusion, none of the bait and scent combinations tested here improved efficiency and selectivity of cage traps for catching red foxes, and in addition non-target species of conservation concern were captured. According to these results, the use of cage traps for fox management in hunting estates within central Spain is not recommended. Recently, new capture sys-

tems for foxes have been developed and tested in Spain, all of which resulted in a higher efficiency than cage traps (Muñoz-Igualada *et al.* 2008, 2010). Among these methods, the Collarum restraining device (a propelled neck snare) was the most selective quite efficient device (Muñoz-Igualada *et al.* 2008). This system may be a good alternative to other fox control methods, such as cage traps or leg snares, (Shivik *et al.* 2005, Muñoz-Igualada *et al.* 2008, 2010). Above all, any fox management should be carried out only by trained and qualified personnel and always monitored by wildlife authorities.

Acknowledgements

This study was funded by Consejería de Medio Ambiente of Junta de Comunidades de Castilla-La Mancha. Special thanks go to landowners who facilitated access to their game estates, and to the field staff of the regional government of Castilla-La Mancha. Thanks to people who assisted us during the fieldwork, especially to S. Luna and L.E. Mínguez. We are indebted to veterinarians O. Rodríguez, M. Reglero and R. Sobrino who examined the captured animals. Two anonymous reviewers provided helpful comments on a previous version of the manuscript. B. Berzosa carefully revised the English text. F. Díaz-Ruiz received a postdoctoral contract financed by the European Social Fund (ESF) and Junta de Comunidades de Castilla-La Mancha (Operational Programme FSE 2007/2013). M. Delibes-Mateos was supported by the Talentia Postdoc Program launched by the Andalusian Knowledge Agency, and co-funded by the European Union's Seventh Framework Program, Marie Skłodowska-Curie actions (COFUND, Grant Agreement no. 267226) and the Ministry of Economy, Innovation, Science and Employment of Junta de Andalucía.

Ethical standards

This work was performed in compliance with current Spanish legislation, and follows the European Union's recommendations regarding animal welfare. All procedures were carried out with appropriate permits, provided by the concerned institutions (Castilla-La Mancha Regional Government; code numbers 02-227/RN-52 and PREG-05-23).

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Appendix 1. Design and description of the cage traps used in this study. All trap models have a trigger mechanisms based on a guillotine-type door and a tread trigger system, except Model A (CT01 type) that has a cable-door connexion system that is triggered when the animal pulls the bait fixed to the end of the steel cable.

Model A (CT01 type)

Model B (CT01 type)

Model C (CT02 type)

Model D (CT02 type)

Model E (CT03 type)

Model	Size (mm) (width × length × height)	Mesh size (mm)	Capture entrances	Live bait chamber
A	1020 × 2000 × 1000	40 × 40	1	no
B	450 × 950 × 500	50 × 50	1	no
C	360 × 1450 × 550	46 × 46	2	lateral
D	450 × 1520 × 500	52 × 52	2	lateral
E	450 × 2300 × 500	50 × 50	2	central

Appendix 2. Results obtained for each bait and attractant combination, and for each trap-type and bait + attractant combination (CT type). Effort = number of trap-nights, Efficiency = foxes per 1000 trap-nights, NTcr = non-target per 1000 trap-nights, – = incalculable, nt = not tested.

		Bait	Attractant	Effort	Captures		Efficiency	NTcr	Selectivity
						Fox	Non-target		
Bait									
Live		Live-bait only	434	1	14	2.3	32.3	7	
		+ FU	205	3	11	14.63	53.66	21	
		+ VAL	243	1	4	4.11	16.46	20	
Dead		Dead-bait only	654	1	7	1.53	10.7	13	
		+ FU	199	0	2	0	10.05	0	
		+ VAL	72	0	0	0	0	–	
CT type									
CT01	Dead	Dead-bait only	303	1	4	3.3	13.2	20	
		+ FU	120	0	1	0	8.33	0	
		+ VAL	16	0	0	0	0	-	
	Live	Live-bait only	nt	nt	nt	nt	nt	nt	
		+ FU	nt	nt	nt	nt	nt	nt	
		+ VAL	nt	nt	nt	nt	nt	nt	
CT02	Dead	Dead-bait only	343	0	2	0	5.83	0	
		+ FU	56	0	0	0	0	–	
		+ VAL	48	0	0	0	0	–	
	Live	Live-bait only	297	0	2	0	6.73	0	
		+ FU	133	1	0	7.52	0	100	
		+ VAL	157	1	0	6.37	0	100	
CT03	Dead	Dead-bait only	8	0	1	0	125	0	
		+ FU	23	0	1	0	43.48	0	
		+ VAL	8	0	0	0	0	–	
	Live	Live-bait only	137	1	12	7.3	87.59	8	
		+ FU	72	2	11	27.78	152.78	15	
		+ VAL	86	0	4	0	46.51	0	
Total			1807	6	38	2.9	21	13.6	