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This is the author's final version of the contribution published as:

Bertolino, Sandro. Using native Experiential Key Species to avoid exotic species filling the emotional void: response to Battisti's 'Letter from the Conservation Front Line'. *ANIMAL CONSERVATION*. 19 (6) pp: 488-489.  
DOI: 10.1111/acv.12313

The publisher's version is available at:

<http://onlinelibrary.wiley.com/doi/10.1111/acv.12313/fullpdf>

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## Using native Experiential Key Species to avoid exotic species replacing the empty feeling

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In his 'Letter from the conservation front line', Battisti (2016) proposed a new category of conservation-related species: the Experiential Key Species (EKS). These are species that are common in urban areas, or nearby ecosystems, and can be used to stimulate familiarization with local fauna for new generations that are progressively disconnected from nature. According to Battisti (2006), EKS species should be (i) widely distributed and locally abundant, (ii) easy to engage with, and (iii) convey emotions for their intrinsic traits. I agree that species and ecosystems close to urban areas may represent an important source of stimuli for people that are progressively losing any contact with nature, however, I urge the addition of a fourth criterion for selecting EKS species: they must be native.

Nowadays, the introduction of non-native species is considered to be one of the leading causes of the progressive loss of native biodiversity (Bellard, Genovesi & Jeschke, 2016) and an important cost for society (Pimentel, 2002). Urban areas are particularly vulnerable to species introduction, due to the volume of goods entering cities for trade (e.g. pet trade, gardening). For instance, pet species such as parrots and squirrels are becoming common in many cities (Bertolino, 2009; Lever, 2005), often representing the only species easily visible to people. Urban parks may be good habitats for these species, due to the presence of large trees suitable for nesting and feeding and the absence of competition and predation pressure (Parker & Nilon, 2012). Turtle pets, such as the slider turtle (*Trachemys scripta*), are sold in the millions and often end up being released into ponds and lakes either inside or close to cities (Ficetola *et al.*, 2012).

Species that are traded as pets are selected because they convey positive emotions to buyers. Therefore, when they establish urbanized populations after release or escape, they easily become an attraction for people not used to frequenting natural environments and to having contact with other wildlife. Recently, I was involved in the eradication of a grey squirrel (*Sciurus carolinensis*) population from an urban park in Genova Nervi (Italy). To make it acceptable to most NGOs, the extirpation was planned through the capture, surgical sterilization, and release of animals into another park of the same city. Despite the non-lethal solution proposed, the project was stringently opposed by a group of citizens that did not accept the loss of what they considered 'their animals'. Urban grey squirrels are a perfect Experiential Species: they can reach high densities, are easy to spot and attract with food, are cute and charismatic, and they often feature as characters in cartoons and other stories. The emotional connection, established between urban squirrels and park visitors, however, could lead to the desire to have those animals close to home, with the risk of translocations to new areas (Signorile *et al.*, 2016). I am sure that this is not one of the outcomes that Battisti (2016) was advocating for in his appeal for species to act as a conservation-relevant EKS.

The species proposed by Battisti (2006) as example of EKS are probably native, but people working as environmental educators could be attracted by the 'easy to use' high density, easy to spot and empathy-inducing introduced populations of squirrels, parrots and turtles. As conservationists, wildlife managers or environmental educators, we should make clear the distinction between native biodiversity and introduced species (the so-called 'xenodiversity'). Introduced populations could be used to make citizens aware of the threats they pose to native species and ecosystems, highlighting the dangers of buying and releasing exotic animals; however,

the status of Experiential Key Species should be reserved for native species living side-by-side with people in cities.

## References

- Battisti, C. (2016). Experiential key species for the nature-disconnected generation. *Anim. Conserv.* doi:10.1111/acv.12288.
- Bellard, C., Genovesi, P. & Jeschke, J.M. (2016). Global patterns in threats to vertebrates by biological invasions. *Proc. R. Soc. B* 283: 2015-2454.
- Bertolino, S. (2009). Animal trade and non-indigenous species introduction: the world-wide spread of squirrels. *Divers. Distrib.* **15**, 701–708.
- Ficetola, G.F., Rödder, D. & Padoa-Schioppa, E. (2012). *Trachemys scripta* (Slider terrapin). In *Handbook of global freshwater invasive species*: 331–339. Francis, R.A. (ed.). Earthscan, Taylor & Francis Group Abingdon, UK.
- Lever, C. (2005). *Naturalised birds of the world*. Poyser, London.
- Parker, T.S. & Nilon, C.H. (2012). Urban landscape characteristics correlated with the synurbization of wildlife. *Landsc. Urban Plan.* **106**, 316–325.
- Pimentel, D. (2002). *Biological invasions: economic and environmental costs of alien plant, animal, and microbe species*. CRC Press, Florida.
- Signorile, L.A., Reuman, D.C., Lurz, P.W.W., Bertolino, S., Carbone, C. & Wang, J. (2016). Using DNA profiling to investigate human-mediated translocations of an invasive species. *Biol. Cons.* **195**, 97–105.