Present but not detected: new records increase the jaguar's area of occupancy in the coastal Atlantic Forest

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SUPPLEMENTARY MATERIAL 1 Interview survey.

To carry out the interview survey, the entire Serra do Mar region in Paraná and southern São Paulo states (c. 6,500 km^2) was divided into 5×5 km quadrants, and 102 sampling units were randomly selected (Fig. 1). For each sampling unit, one to three people were interviewed. The informants were chosen for their knowledge about the local fauna and confirmed that they walked at least once per month inside the sampling unit. They were identified by asking local people about someone with these characteristics or asking one informant about others with similar experience (Davis & Wagner, 2003).

Before all interviews, we identified ourselves as researchers and asked for their permission to be interviewed voluntarily and anonymously (Rabinowitz, 1997). The interviews began by collecting information on the informant's personal background, following which they were shown a worksheet with photos and asked to identify the animals present in the region, including some that were definitely not in the area (Rabinowitz, 1997). If informants indicated that jaguars were present in the sampling unit, they were asked when the record occurred, whether it was a sighting or footprints, and the approximate location using a description of the area's geography.

Informants who reported seeing footprints were asked about the size of the footprints and the differences relative to those of pumas. Pumas have a smaller footprint with a morphology different from that of the jaguar, though inexperienced individuals could confuse the two. If the informant misidentified or provided an erroneous description of jaguars or their tracks, the interview was not considered. We had 165 informants, all men who had lived inside or surrounding the area of the sampling unit for 3–92 years. Some informants knew about more than one sampling unit, in which cases we performed additional interviews with the same informant for each sampling unit.

SUPPLEMENTARY MATERIAL 2 Definitions of priority areas for jaguar conservation.

To estimate the areas of jaguar occupancy and identify priority areas for jaguar conservation, we used the software *ArcMap* 10.5 and the database of Atlantic Forest Remnants by SOS Mata Atlântica e INPE for the 2017–2018 period available at http://mapas.sosma.org.br/dados/solicitacao_mapas/ . This database is at a 1:50,000 scale with a minimum of 3 ha area measured using satellite images from the OLI/Landsat 8.

The terms used are those from the Paviolo et al. (2016) study:

(1)   Area of jaguar occupancy, defined as 'every fragment of continuous suitable habitat containing jaguar records and those that had a jaguar record closer than 1.7 km'.

(2)   Area of potential jaguar occupancy, defined as 'fragments without jaguar records inside or near them, but that were closer than 1.7 km to an occupied fragment of suitable habitat'.

(3)   Jaguar conservation unit, defined as 'areas of jaguar occupancy and potential occupancy, and grouped them into those that were less than 15 km from a fragment with jaguar presence'.

Paviolo et al. (2016) considered a jaguar record camera trap pictures, locations of collared individuals, poached or road-killed animals, confirmed jaguar attacks to cattle, sightings and jaguar confirmed tracks and faeces. To include those last two in the study the tracks had to have been identified following the methodology developed by De Angelo et al. (2010), and the faeces by using molecular techniques to obtain and analyse DNA (Haag et al., 2009).

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