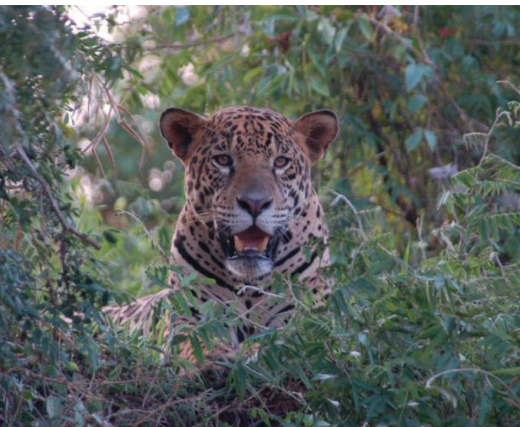


LETTERS

edited by Jennifer Sills

Atlantic Rainforest's Jaguars in Decline



IN HER NEWS FOCUS STORY "PREDATORS IN THE 'hood'" (20 September, p. 1332), V. Morell reported that top predator populations are coming back across much of North America. Meanwhile, predators in Brazil continue to decline. A recent meeting of wildlife experts indicated that the Atlantic rainforest that once stretched along the coast of Brazil and parts of Argentina and Paraguay may soon be the first tropical biome to lose its largest top predator, the jaguar (*Panthera onca*). Researchers estimated fewer than 250 mature jaguars alive in the entire biome, distributed in eight isolated populations (1). Even worse, molecular analyses demonstrate that local effective population size (a critical parameter for the maintenance of

genetic diversity) is below 50 animals (2).

Jaguars are persecuted for their potential impact on livestock, and their prey have been overhunted even in large protected areas (3). Jaguars provide a crucial service in controlling herbivores (capibaras, deer, and peccaries) and smaller predators (pumas, ocelots, foxes, and racoons), and their overall extinction will likely disrupt predator-prey interactions with unpredictable effects on ecosystem function (4). The Atlantic rainforest is a highly fragmented biodiversity hotspot, with less than 12% of the original area left (5). Although 24% of the remaining areas are large enough to support jaguars, jaguar populations can be found in only 7% of the rainforest (4).

Population supplementation and reintroduction programs may provide new hope for jaguars, but uncontrolled hunting of jaguars and their prey is still widespread in most protected areas, threatening the persistence of this important top predator. In the absence of effective protection and management, the fate of the largest predator of the Atlantic forests is bleak.

MAURO GALETTI,^{1*} EDUARDO EIZIRIK,^{2,3} BEATRIZ BEISIEGEL,⁴ KÁTIA FERRAZ,⁵ SANDRA CAVALCANTI,³ ANA CAROLINA SRBEK-ARAÚJO,⁶ PETER CRAWSHAW,⁴ AGUSTIN PAVIOLO,⁷ PEDRO MANOEL GALETTI JR.,⁸ MARIA LUISA JORGE,^{1,9} JADER MARINHO-FILHO,¹⁰ UGO VERCILLO,⁴ RONALDO MORATO^{3,4}

¹Departamento de Ecologia, Universidade Estadual Paulista, 13506-900, Rio Claro, SP, Brazil. ²Faculdade de Biociências, PUCRS, Porto Alegre, 90619-900, RS, Brazil. ³Instituto Pró-Carnívoros, 12947-110, Atibaia, SP, Brazil. ⁴Instituto Chico Mendes de Conservação da Biodiversidade, Brasília, 70670-350, DF, Brazil. ⁵Departamento de Ciências Florestais, Universidade de São Paulo, Escola Superior de Agricultura "Luiz de Queiroz," Piracicaba, 13418-900, SP, Brazil. ⁶Universidade Vila Velha, Vila Velha, Espírito Santo, 29102-920, Brazil. ⁷Instituto de Biología Subtropical, CONICET-UN Misiones, Iguazú, N3370AIA, Argentina. ⁸Departamento de Genética e Evolução, Universidade Federal de São Carlos, São Carlos, 13565-905, SP, Brazil. ⁹Vanderbilt University, Nashville, TN 37240, USA. ¹⁰Departamento de Zoologia, Universidade de Brasília, 70910-900, Brasília, DF, Brazil.
*Corresponding author. E-mail: mgaletti@rc.unesp.br

References

1. B. M. Beisiegel, D. A. Sana, E. Moraes Jr., *CatNews Special Issue* **7**, 14 (2012).
2. T. Haag *et al.*, *Mol. Ecol.* **19**, 4906 (2010).
3. F. C. C. de Azevedo, V. A. Conforti, *Mammalia* **72**, 82 (2008).
4. M. L. S. P. Jorge, M. Galetti, M. C. Ribeiro, K. M. P. M. B. Ferraz, *Biol. Conserv.* **163**, 49 (2013).
5. M. C. Ribeiro, J. P. Metzger, A. C. Martensen, F. J. Ponzoni, M. M. Hirota, *Biol. Conserv.* **142**, 1141 (2009).

Capping Progress
on Invasive Species?

THE EUROPEAN COMMISSION RECENTLY PUBLISHED its long-awaited draft legislation on invasive alien species (1). The proposed regulation implements a key target of the European Union Biodiversity Strategy (2), aiming to bring EU policy in line with the Convention on Biological Diversity targets for 2020, which obliges signatories to identify and prioritize invasive alien species and their pathways of invasion, to control or eradicate priority species, and to manage pathways to prevent the introduction and establishment of new invasive alien species (3).

An EU-wide regulation that coordinates a preventative and responsive system across the member states is a welcome step forward. However, one aspect of the draft risks fundamentally compromising its capacity to tackle the issue: The list of species to which the system would apply is strictly capped at a maximum of 50 species, for at least an initial period of 5 years after adoption (realistically, until 2020). This is only 3% of the 1500 invasive alien species already recognized as present and problematic in the European Union (1, 4), which generate a minimum estimated cost of €12.5 billion annually (5, 6).

The justification for capping the number of priority species is "to provide member states with certainty regarding the extent and

Letters to the Editor

Letters (~300 words) discuss material published in *Science* in the past 3 months or matters of general interest. Letters are not acknowledged upon receipt. Whether published in full or in part, Letters are subject to editing for clarity and space. Letters submitted, published, or posted elsewhere, in print or online, will be disqualified. To submit a Letter, go to www.submit2science.org.

CREDIT: SANDRA CAVALCANTI