Army troops helped protect the greater one-horned rhino population in Chitwan National Park, Nepal.

PHOTO: BIOSPHOTO/ALAMY STOCK PHOTO

Edited by **Jennifer Sills**

Editor's note

When the Letter "Trophy hunting bans imperil biodiversity" (A. Dickman *et al.*, 30 August, p. 874) was published, *Science*'s policy of asking all manuscript authors to declare conflicts of interest did not apply to Letters. This policy is now under revision to ensure that authors of Letters also make readers aware of financial and advisory competing interests. *Science* has therefore requested that the authors of Dickman *et al.* declare their competing interests. They have done so in an addendum to their Letter.

Jeremy Berg
Editor-in-Chief

10.1126/science.aaz9111

Trophy hunting: Role of consequentialism

In their Letter "Trophy hunting bans imperil biodiversity" (30 August, p. 874), A. Dickman *et al.* adopt a radical consequentialist approach. Not only do they discard any deontological concern relevant to trophy hunting but also, remarkably, they oppose policies that would consider deontological objections against trophy hunting. Said otherwise, according to Dickman *et al.*, evidence-based policy-making must trump moral-based policy-making.

Consequentialist approaches are not uncommon in conservation (*1*), but Dickman *et al.*'s Letter is important because it opens the question of whether ethical objections limit nature conservation and whether it is time to move beyond such objections, as the authors do. Conservation increasingly operates within an ethical frame whereby protecting wild plant and animal species must first and foremost benefit human communities and becomes unacceptable if it imposes a burden on people. This emphasis is leveraged by social science, which has a growing importance in conservation and is becoming more concerned with social justice than with an objective understanding of social systems (*2*). As a result, conservation practices such as green militarization or human population displacement are often arbitrarily excluded by scholars from the conservation toolkit and mostly mentioned from a critical or adversarial ideological standpoint (*3*).

Yet, these practices have the potential to deliver impressive results. The greater one-horned rhino (*Rhinoceros unicornis*) population in Chitwan National Park, Nepal rebounded after the deployment of army troops to fight against poaching and the expansion of the park (*4*). African Parks—a nongovernmental organization managing protected areas with a total control approach—set up anti-poaching forces with SWAT-like training and succeeded in increasing Chad's Zakouma National Park elephant populations (*5*). In the Central African Republic, African Parks purchased from Bulgaria more than one hundred war-grade weapons with 90,000 rounds under an exemption from the UN embargo and shipped them to the Chinko Project, a 17,600-km^2 wildlife refuge it manages with full law enforcement competence (*6*). Displacement is another ostracized conservation tool (*7*). However, by displacing thousands of people in northeastern China, the government has reduced human population density by more than half and consequently Amur tigers (*Panthera tigris altaica*) and leopards (*Panthera pardus orientalis*) are recovering in the area (*8*).

Opposing green militarization or population displacement negatively affects conservation, and viable alternatives are often lacking. Although some people find these approaches unethical, conservation policy that is not based on science threatens habitat and biodiversity. If ethical concerns remain selective and subjective, conservation is unlikely to succeed. The same pragmatic, results-oriented rationale that Dickman *et al.* advocate for trophy hunting may need to be expanded to other controversial conservation approaches.

Guillaume Chapron[1,2]* and José Vicente López-Bao[3]
[1]Department of Ecology, Swedish University of Agricultural Sciences, 730 91 Riddarhyttan, Sweden. [2]Wildlife Conservation Research Unit, Department of Zoology, University of Oxford, Tubney, OX13 5QL, UK. [3]Research Unit of Biodiversity (UO/CSIC/PA), Oviedo University, 33600 Mieres, Spain.
*Corresponding author. Email: guillaume.chapron@slu.se

REFERENCES AND NOTES

1. A. Hiller, R. Ilea, L. Kahn, *Consequentialism and Environmental Ethics: Routledge Studies in Ethics and Moral Theory* (Taylor & Francis, 2013).
2. J. Toby, "Left-wing politics and the decline of sociology," *The Wall Street Journal* (2019).
3. R. Duffy *et al.*, *Biol. Conserv.* **232**, 66 (2019).
4. A. Dudley, "Nepal's rhino numbers rise, thanks to national and local commitment," *Mongabay* (2017).
5. R. Nuwer, "The rare African park where elephants are thriving," *National Geographic* (2017).
6. UN Security Council, S/2018/729 Overview of Sanctions Committee Documents (2018).
7. C. Geisler, *Int. Soc. Sci. J.* **55**, 69 (2003).
8. G. Jiang *et al.*, *Biol. Conserv.* **211**, 142 (2017).

COMPETING INTERESTS

G.C. is a member of the IUCN Large Carnivore Initiative for Europe, IUCN Canid Specialist Group, and IUCN Cat Specialist Group. J.V.L.-B. is a member of the IUCN Canid Specialist Group.

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Trophy hunting: Values inform policy

In their Letter "Trophy hunting bans imperil biodiversity" (30 August, p. 874), A. Dickman *et al.* mischaracterize context, offer weak evidence, and overlook the role of values. They caution against trophy hunting bans, yet the policies they cite do not ban trophy hunting. Two of the policies discontinue only import of lion trophies (*1*); the others ban the import of trophies from a delimited set of endangered species (*1*–*3*). These are not blanket bans on trophy hunting but species-specific import restrictions. Although Dickman *et al.* contend such bans would "imperil biodiversity," their evidence is selective [e.g., (*4*, *5*)] and does not directly support the contention that import bans yield negative conservation outcomes.

In raising concerns about sustainable community development, Dickman *et al.* set up a false dichotomy: Either restrict the import of wildlife trophies to Western countries or promote self-sustaining African communities. Western nations can support sustainable development of African nations while regulating the import of wildlife trophies by their own citizens. Although import bans in Western nations potentially affect African communities, these impacts should not be confused with the impacts of discontinuing trophy hunting. Especially where trophy hunting generates few benefits for local people (*6*, *7*), negative socioeconomic effects of import bans will likely be limited.

Dickman *et al.* further assert that "calls for hunting bans usually cite conservation concerns," but such calls are often motivated by moral concerns (*1*, *3*, *8*). Indeed, the authors allude to this in suggesting policy should be based on science, not feelings of "repugnance." This position establishes another false dichotomy. Adjudicating policy requires both understanding the likely results of a policy (science) and evaluating whether those results are desirable (values) (*9*). Such evaluative judgments are expressed by emotions (*10*). Policies supporting sustainable community development may seek to remediate the harms of Africa's colonial history. Recognizing these harms as injustices—a moral judgment—engenders emotions such as anger. Policies may also aim to combat perceived injustice against nonhuman animals, which may similarly elicit outrage. In short, emotion attends moral judgment, which informs policy.

Conservation is rife with risk. Humans and wildlife face physical and biological risks; hence both are subjects of concern. But conservation strategies may carry moral risks as well, even when enacted out of concern. Science can quantify risks, but it cannot tell us whether they are acceptable or by whose values they should be judged. Governments are right to institute policies that manage the landscape of risk by weighing scientific evidence and accounting for the values of their citizens.

Chelsea Batavia[1]*, Jeremy T. Bruskotter[2], Chris T. Darimont[3,4], Michael Paul Nelson[1], Arian D. Wallach[5], and 56 signatories

[1]Department of Forest Ecosystems and Society, Oregon State University, Corvallis, OR, 97331, USA. [2]School of Environment & Natural Resources, Ohio State University, Columbus, OH 43210, USA. [3]Department of Geography, University of Victoria, Victoria, BC V8W 2Y2, Canada. [4]Raincoast Conservation Foundation, Sidney, BC V8L 3Y3 Canada. [5]Centre for Compassionate Conservation, School of Life Sciences, University of Technology Sydney, Ultimo, NSW, 2007, Australia.
*Corresponding author.
Email: chelsea.batavia@oregonstate.edu

REFERENCES AND NOTES

1. E. Ares, "Trophy hunting," Briefing Paper 7908 (House of Commons Library, London, UK, 2019).
2. U.S. Congress, H.R. 2245—CECIL Act (2019).
3. H. Horton, "Britain will have toughest trophy hunting rules in the world as Government announces ban of 'morally indefensible' act," *The Telegraph* (2019).
4. D. W. Macdonald *et al.*, *Mammal Rev.* **47**, 247 (2017).
5. W. J. Ripple *et al.*, *Trends Ecol. Evol.* **31**, 495 (2016).
6. T. Pasmans, P. Hebinck, *Land Use Pol.* **64**, 440 (2017).
7. A. Yasuda, *Soc. Nat. Resour.* **24**, 860 (2011).
8. Born Free Foundation, "Ban trophy hunting: Help end this barbaric sport" (2019).
9. K. D. Moore, M. P. Nelson, Eds., *Moral Ground: Ethical Action for a Planet in Peril* (Trinity University Press, San Antonio, TX, 2010).
10. A. Damasio, *Looking for Spinoza* (Houghton Mifflin Harcourt Publishing, New York, 2003).

COMPETING INTERESTS

J.T.B. has received funding from the Ohio Agricultural Research and Development Center, the Ohio Department of Natural Resources, the National Oceanic and Atmospheric Administration, and the Association for Fish and Wildlife Agencies. He serves in an advisory capacity for Project Coyote and the Ohio Department of Natural Resources. M.P.N. has received funding from the National Science Foundation and serves in an advisory capacity for Project Coyote.

SUPPLEMENTARY MATERIALS

science.sciencemag.org/content/366/6464/433.1/suppl/DC1
List of signatories

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Response

"...Batavia *et al.* urge us not to confuse the effect of restricting imports on local people with the impacts of discontinuing trophy hunting [but] the former is meant to bring about the latter..." —Dickman *et al.*

Full text: science.sciencemag.org/content/366/6464/433.1/tab-e-letters

Trophy hunting: Broaden the debate

In their Letter "Trophy hunting bans imperil biodiversity" (30 August, p. 874), A. Dickman *et al.* argue against trophy hunting bans, but the bans they mention are neither blanket nor hunting bans. France only suspended lion trophy imports, whereas Australia and The Netherlands banned import permits for trophies of several species (*1*), but other trophies continue to be collected worldwide and domestically. Indeed, a ban on the import of a trophy into a nation does not constitute a ban on hunting by its nationals; Dickman *et al.* confound the two, which is disingenuous and raises the question of whether hunting is a sport or a form of commodity acquisition (*2*).

International movement of trophies is regulated under the Convention on International Trade in Endangered Species (CITES), governed by member states. Unless there is evidence of trade threatening the survival of a species, sovereign states can allow hunting and export trophies, but potential importing states also have sovereignty over their response to concerns of their constituencies and have the right to implement what CITES calls "stricter domestic measures" (*3*). Debates around this have been politicized, which typically happens when scientific data are too inconclusive to guide policy formulation (*3*).

Dickman *et al.* misrepresent the responsibility of importing states over hunting policy; ironically, they may stimulate blanket bans by arguing against opt-outs for some countries for certain species. Moreover, they fail to mention that where hunting zones are protected areas recognized by civil law, they would remain so. In addition, habitat in hunting zones is often not effectively protected, and the collapse of trophy hunting observed in certain areas is not due to trade bans but to a failing balance of costs and benefits (*4*, *5*). Trophy hunting is neither the main threat to nor the main opportunity for wildlife conservation, and we encourage a broader debate.

Hans Bauer[1]*, Bertrand Chardonnet[2], Mark Jones[3], Claudio Sillero-Zubiri[1,3]

[1]Wildlife Conservation Research Unit, Zoology, University of Oxford. Tubney OX13 5QL, UK. [2]African Protected Areas and Wildlife, 92210 Saint Cloud, France. [3]Born Free Foundation, Horsham, RH12 4QP, UK.
*Corresponding author.
Email: hans.bauer@zoo.ox.ac.uk

REFERENCES AND NOTES

1. E. Ares, "Trophy hunting," Briefing Paper 7908 (House of Commons Library, London, UK, 2019).
2. C. Batavia *et al.*, *Conserv. Lett.* **12**, e12565 (2019).
3. H. Bauer *et al.*, *Conserv. Lett.* **11**, e12444 (2018).
4. H. Bauer *et al.*, *PLOS One* **12**, e0173691 (2017).
5. B. Chardonnet, "Africa is changing: Should its protected areas evolve? Reconfiguring the protected areas in Africa" (IUCN, 2019).

COMPETING INTERESTS

H.B. has received funding from or is a member of University of Oxford, Born Free Foundation, IUCN Cat Specialist group, IUCN Save Our Species, Wildlife Conservation Network, National Geographic, U.S. Fish and Wildlife Service, Leo Foundation, GIZ (German Technical Development

Cooperation), and Leipzig Zoo. B.C. has received funding from or is a member of African Union/IBAR, IUCN, GIZ (German Technical Development Cooperation), KfW (German Financial Cooperation), Afrique Nature International, Ecole Inter-Etats des Sciences et Médecine Veterinaire de Dakar (EISMV)/University of Minnesota, African Wildlife Foundation, OIE–World Organization for Animal Health, and AFD (French Agency for Development). C.S.-Z. is Chair of the IUCN Species Survival Commission Canid Specialist Group and Chief Scientist of Born Free Foundation. He has received funding from or is a member of University of Oxford, University of Vermont, Wildlife Conservation Network, Fondation Segre, Conservation International Critical Ecosystem Partnership Fund, African Wildlife Foundation, IUCN Save Our Species, National Geographic, U.S. Fish and Wildlife Service, IUCN Cat Specialist group, IUCN Wildlife Health Specialist group, and IUCN Human Wildlife Conflict Task Force.

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Response

"...It is...hypocritical for a rich country to...reduce the viability of trophy hunting in poor countries while taking no action against domestic sport hunting..."
—Dickman *et al.*

Full text: science.sciencemag.org/content/366/6464/433.2/tab-e-letters

Trophy hunting: Bans create opening for change

In their Letter "Trophy hunting bans imperil biodiversity" (30 August, p. 874), A. Dickman *et al.* warn that banning trophy hunting, a practice many of them deem "repugnant," could threaten African biodiversity and livelihoods. What they actually describe is how loss of funding may impart these effects, without specifying any unique benefits of trophy hunting. It is defeatist to defend business-as-usual instead of promoting alternative conservation activities that could sustain formerly trophy-hunted species and areas.

Trophy hunting relies on deep geopolitical inequalities, particularly in Africa, where it often fails to deliver demonstrable conservation outcomes (*1*) and can intersect with crime (*2*). It yields low returns at household levels (*3*), with only a fraction of generated income reaching local communities (*4*). It also siphons off wildlife from adjacent protected areas (*5*), reduces population connectivity and resilience, and can have genetic consequences such as reductions in body, horn, and/or tusk size (*6*). Its effects on wildlife demography and behavior can be profound (*7*).

Trophy import bans present an opportunity to rethink how we can conserve wildlife in nonextractive ways that are consistent with shifting public opinion. The system is primed for change. The recently polled U.S. public shares attitudes with other countries enacting trophy import bans and especially strongly disapproves of trophy hunting of African elephants and lions (*8*). Sustainable alternatives exist and could reduce reliance on a small and narrowing cohort of wealthy Western "donors" (*9*).

For example, land use reforms, co-management, and greater participatory stewardship can provide a more sustainable, resilient, and equitable system (*10*). Locally adjusted and bottom-up management practices (*11*), granting communities land titles, conservation-compatible agriculture, and coexistence approaches can also benefit communities and conservation more than trophy hunting. In addition, tourism reforms could invigorate domestic tourism (*12*), minimize leakage of tourism income to foreign investors, and reduce the footprint of wildlife-viewing tourism through green development investment. Diversified nature-based tourism beyond photographing and viewing wildlife could incorporate survival skills/bushcraft training and agritourism, emphasizing local knowledge, cultural exchange, and inclusion of women. Finally, environmental investments could connect would-be micro-investors more directly to wildlife-wealthy communities. Financial strategies such as decentralized markets made possible by blockchain technology could use carbon and biodiversity credits for conserving habitats. Sustainable enterprise development could generate direct financial benefits to local communities.

During transitions, nongovernmental organizations could raise funds to pay concessions or countries could agree that a private entity would temporarily assume game reserve management. As the bans are not blanket but import bans, they provide the impetus and the time to incrementally switch to practices that maximize contributions to the Sustainable Development Goals.

Tourism reforms could make wildlife-viewing tourism greener and more beneficial to local communities.

PHOTO: MARKA/CONTRIBUTOR/GETTY IMAGES

Katarzyna Nowak[1,2]*, Phyllis C. Lee[3,4], Jorgelina Marino[5], Mucha Mkono[6], Hannah Mumby[7,8,9], Andrew Dobson[10], Ross Harvey[11], Keith Lindsay[4], David Lusseau[12], Claudio Sillero-Zubiri[5,13], and 71 signatories

[1]The Safina Center, Setauket, NY 11733, USA. [2]Department of Zoology and Entomology, University of the Free State, Phuthaditjhaba, 9866, South Africa. [3]Faculty of Natural Sciences, University of Stirling, Stirling, FK9 4LA, UK. [4]Amboseli Trust for Elephants, Langata, Nairobi 00509, Kenya. [5]Wildlife Conservation Research Unit, Zoology, University of Oxford, Tubney OX13 5QL, UK. [6]Tourism Cluster, University of Queensland Business School, University of Queensland, QLD 4072, Australia. [7]School of Biological Sciences, University of Hong Kong, Pok Fu Lam, Hong Kong. [8]Department of Politics and Public Administration, University of Hong Kong, Pok Fu Lam, Hong Kong. [9]Centre for African Ecology, School of Animal, Plant and Environmental Sciences, University of the Witwatersrand, Johannesburg, 2000, South Africa. [10]Department of Ecology and Evolutionary Biology, Princeton University, Princeton, NJ 08544-1003, USA. [11]School of Economics, University of Cape Town, Cape Town, South Africa. [12]School of Biological Sciences, University of Aberdeen, Aberdeen AB24 2TZ, UK. [13]Born Free Foundation, Horsham, RH12 4QP, UK.
*Corresponding author.
Email: knowak02@gmail.com

REFERENCES AND NOTES

1. J. Selier *et al.*, *J. Wildlife Manage.* **78**, 122 (2014).
2. T. Milliken, J. Shaw, "The South Africa–Viet Nam Rhino Horn Trade Nexus" (TRAFFIC, 2012).
3. M. Segage, Master's thesis, University of Limpopo (2015).
4. I. *Nordbø et al.*, *J. Sustain. Tour.* ***26***, *68 (2018).*
5. A. J. Loveridge *et al.*, *Biol. Conserv.* **134**, 548 (2016).
6. D. W. Coltman *et al.*, *Nature* **426**, 655 (2003).
7. J. M. Milner *et al.*, *Conserv. Biol.* **21**, 36 (2007).
8. Responsive Management, "Americans' attitudes toward hunting, fishing, sport shooting and trapping" (NSSF, 2019).
9. C. Batavia *et al.*, *Conserv. Lett.* **12**, e12565 (2018).
10. IPBES, "IPBES global assessment summary for policymakers" (2019).
11. Z. T. Ashenafi, N. Leader-Williams, *Hum. Ecol.* **33**, 539 (2005).
12. S. B. Mariki *et al.*, *J. Environ. Pol. Plan.* **4**, 62 (2011).

COMPETING INTERESTS

P.C.L. is Director of Science, Amboseli Trust for Elephants. R.H. consults for the Conservation Action Trust and the EMS Foundation. D.L. is a member of IUCN Sustainable Use and Livelihoods Specialist Group and a member of IUCN Species Survival Commission Cetacean Specialist Group. C.S.-Z. is Chair of the IUCN Species Survival Commission Canid Specialist Group and Chief Scientist of Born Free Foundation. He has received funding from or is a member of University of Oxford, University of Vermont, Wildlife Conservation Network, Fondation Segre, Conservation International Critical Ecosystem Partnership Fund, African Wildlife Foundation, IUCN Save Our Species, National Geographic, U.S. Fish and Wildlife Service, IUCN Cat Specialist group, IUCN Wildlife Health Specialist group, and IUCN Human Wildlife Conflict Task Force.

SUPPLEMENTARY MATERIALS

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Response

"...[T]he true risk is...losing funding streams that require the presence of trophy hunted species...and therefore incentivize conservation of their populations and habitat..." —Dickman *et al.*

Full text: science.sciencemag.org/content/366/6464/434/tab-e-letters

Trophy hunting: Insufficient evidence

In their Letter "Trophy hunting bans imperil biodiversity" (30 August, p. 874), A. Dickman *et al.* argue that banning trophy hunting would be detrimental to conservation. We agree that evidence for effectiveness is important before actions are taken. However, Dickman *et al.* do not provide evidence that bans to trophy hunting harm biodiversity (*1*).

Dickman *et al.* claim that trophy hunting indirectly benefits biodiversity because populations (and their habitats) are better protected in places or times where trophy hunting has occurred. However, no comprehensive research has tested that hypothesis. Even previous work by Letter authors Dickman and Johnson (led by Macdonald) concludes that we know too little to infer whether trophy hunting (selective hunting for recreation) contributes to the conservation of wild lions (*2*)—one of the best-studied trophy-hunted species.

Dickman *et al.* overstate their case. For example, the claim that "more land has been conserved under trophy hunting than under national parks" seems based on the statement from Lindsey *et al.* (*3*) that "[o]ver 1,394,000 km^2 is used for hunting in sub-Saharan Africa, exceeding the area encompassed by national parks by 22% in the countries where hunting is permitted" (*3*). However, this interpretation is misleading because those lands include private lands, protected areas that allowed subsistence hunting, and various other classes of protected areas, not exclusively trophy hunting concessions. In addition, the authors' prediction that a ban on trophy imports or hunts would indirectly harm biodiversity could be just the converse: Perhaps hunting concessions would be upgraded in protection by catalyzing a governmental rethinking of carnivore management systems. An evidentiary basis for informing controversial policy interventions, such as trophy hunting, demands strong inference with full disclosure of uncertainties and disentangled value judgments from observations or inferences.

Stronger evidence might be gleaned through adequate tests of the effectiveness of trophy hunting for protecting the hunted population, including broad-scale experiments using multiple replicated land parcels subject either to hunting or another putative form of biodiversity protection under similar socioeconomic systems, or tracking of populations before and after trophy hunting (accounting for other threats). Rigorous examinations would likely reveal outcomes that vary by population, geography, other threats to biodiversity, and socioeconomic and governance contexts.

Finally, the addition of a long list of signatories implies a call to authority that should play little or no role in what should ultimately be an evidence-based scientific debate. By contrast, clear evidence, transparently conveyed and clearly demarcated from the ingrained values of those involved (whether they support or reject trophy hunting), could help elucidate environmental, ethical, social, and economic dimensions of this controversial activity whose ultimate conservation effects remain poorly understood.

A. Treves[1]*, F. J. Santiago-Ávila[1], V. D. Popescu[2,3], P. C. Paquet[4,5], W. S. Lynn[6,7], C. T. Darimont[4,5], K. A. Artelle[4,5]

[1]Nelson Institute for Environmental studies, University of Wisconsin, Madison, WI 53706 USA. [2]Department of Biological Sciences and Sustainability Studies Theme, Ohio University, Athens, OH 45701, USA. [3]Center for Environmental Research (CCMESI), University of Bucharest, Bucharest, Romania. [4]Department of Geography, University of Victoria, Victoria, BC V8W 2Y2, Canada. [5]Raincoast Conservation Foundation, Sidney, BC V8L 3Y3, Canada. [6]Marsh Institute, Clark University, Worcester, MA 01610, USA. [7]Knology, New York, NY 10005, USA.
*Corresponding author. Email: atreves@wisc.edu

REFERENCES AND NOTES

1. A. Treves *et al.*, *Conserv. Biol.* **33**, 472 (2018).
2. D. W. Macdonald *et al.*, *Mamm. Rev.* **47**, 247 (2017).
3. P. A. Lindsey *et al.*, *Biol. Conserv.* **134**, 455 (2007).

COMPETING INTERESTS

A.T. is President of the Board of Directors of Future Wildlife, a tax-exempt organization with the mission to preserve nature, especially wild animals, and an unpaid science adviser for Project Coyote.

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Response

"...[A]ction should not be taken without evidence for its effectiveness...[but] we believe the burden of proof clearly lies with those who support [the removal of trophy hunting]..." —Dickman *et al.*

Full text: science.sciencemag.org/content/366/6464/435.1/tab-e-letters

Trophy hunting: A moral imperative for bans

In their Letter "Trophy hunting bans imperil biodiversity" (30 August, p. 874), A. Dickman *et al.* argue that trophy hunting should not be discontinued. However, their premise is not viable when examined under the light of basic morality.

Whether Dickman *et al.* concur or not, wildlife has the basic right of existence, irrespective of human existence and interests. Intentional killing of animals to satisfy the whims of wealthy individuals is detestable. No potential gains, even those that are promoted by Dickman *et al.* as beneficial to wildlife, justify undermining the moral basis of the protection of Earth's natural resources. It is our responsibility to suppress the destructive tools at our disposal so that these resources remain unharmed.

Culling of endangered species is a self-evident fallacy. Our foremost emergency is to restore endangered species to their former state, irrespective of human interests. Unless required for basic existence, hunting of all forms is a practice that should be eradicated like the smallpox virus. Beyond rational arguments, the most appropriate response to the Letter by Dickman *et al.* is outrage.

Arie Horowitz
Philadelphia, PA, 19106, USA
Email: arie2006@gmail.com

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Response

"...[Discontinuing] trophy hunting...without implementing better alternatives risks worsening the situation for both wildlife and people..." —Dickman *et al.*

Full text: science.sciencemag.org/content/366/6464/435.2/tab-e-letters