## Reform wildlife trade in the European Union

Wildlife trade affects a wide variety of species (1), and trade numbers are growing globally (2). The European Union is a major hub for wildlife trade (3), but its wildlife trade regulations are primarily based on the adoption and adaptation of provisions written by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). In 2022, the European Union adopted a welcome new EU action plan against wildlife trafficking (4), but its measures fall short of ensuring that wildlife traded within the European Union is thoroughly documented and sourced legally and sustainably.

The EU Trade in Wildlife Exchange (EU-TWIX) database (5) provides information about illegal trade, but the data are limited to CITES-listed species, excluding many traded species (6, 7). Building on the 2022 plan, which focuses on the enforcement of existing legislation, the European Union should expand the EU-TWIX database to cover all wildlife trade, including all species, legal and illegal, and regulated and unregulated. The data collected should adhere to FAIR (findable, accessible, interoperable, reusable) principles (8). Other countries, such as the United States (9), already track all wildlife trade, and the European Union should follow that example.

The EU Action Plan also overlooks the possibility of illegally sourced and trafficked species legally entering EU borders. Such species are subsequently traded within the European Union and often later exported. To address this issue, the European Union should implement a regulation comparable to the US Lacey Act, which prohibits imports that violate laws of the country of origin of the specimens (10). This change could fill the gaps in current regulatory frameworks and also aid in the preservation of biodiversity in nations that, due to resource limitations. lack effective enforcement.

Finally, many legally traded species face overlooked risks, with insufficient or no evidence of the sustainability of trade practices. Unsustainable trade poses potential threats to wild populations and human health (11). EU authorities should require evidence of the sustainable trade of all imported species and populations. Although identifying sustainability is often more challenging than determining legality, information about how trade affects legally traded species (which are not listed by CITES) can be obtained by consulting databases such as the IUCN Red List Portal (12) or species experts, many of whom are already in the European Union.

The European Union is a global hub for unregistered, illegal, and unsustainable activities. The recent Action Plan is a step forward, but tracking all species, observing the laws of the species' home countries, and ensuring sustainability of legal traffic would transform the region into a model of environmental protection in relation to wildlife trade.

Pedro Cardoso<sup>1,2</sup>\*, Caroline S. Fukushima<sup>2,3</sup>, Armela Maxhelaku<sup>4</sup>, Peter Poczai<sup>5,6</sup>, Miguel Porto<sup>7,8,9</sup>, Andrius Puksas<sup>10</sup>, Luís Reino<sup>7,8,9</sup>, Indrek Saar<sup>11,12</sup>, Oliver Stringham<sup>13</sup>, Adam Toomes<sup>14</sup>, Thiago Vargas<sup>15</sup>, Diogo Veríssimo<sup>16</sup>

<sup>1</sup>Centre for Ecology, Evolution and **Environmental Changes & CHANGE-Institute** for Global Changes and Sustainability, Faculdade de Ciências, Universidade de Lisboa, Lisboa, Portugal. <sup>2</sup>Laboratory for Integrative Biodiversity Research, Finnish Museum of Natural History Luomus, University of Helsinki, Helsinki, Finland. <sup>3</sup>Biodiversity and Sustainability Solutions Lab, University of Turku, Turku, Finland. <sup>4</sup>Faculty of Law, University of Tirana, Tirana, Albania. 5Botany and Mycology Unit, Finnish Museum of Natural History Luomus, University of Helsinki, Helsinki, Finland. <sup>6</sup>Museomics Research Group, Helsinki Institute of Life Science, Helsinki, Finland. <sup>7</sup>Centro de Investigação em Biodiversidade e Recursos Genéticos (CIBIO), Research Network in Biodiversity and Evolutionary Biology (InBIO) Laboratório Associado, Instituto Superior de Agronomia, Universidade de Lisboa, Lisboa, Portugal. <sup>8</sup>CIBIO, Centro de Investigação em Biodiversidade e Recursos Genéticos, InBIO Laboratório Associado, Campus de Vairão, <sup>9</sup>Program in Genomics, Biodiversity, and Land Planning, CIBIO, Campus de Vairão, Vairão, Portugal. <sup>10</sup>Vytautas Magnus University, Kaunas, Lithuania. <sup>11</sup>Financial College, Estonian Academy of Security Sciences, Tallinn, Estonia. <sup>12</sup>School of Governance, Law and Society, Tallinn University, Tallinn, Estonia. <sup>13</sup>Rutgers Climate and Energy Institute, Rutgers, The State University of New Jersey, New Brunswick, NJ, USA. <sup>14</sup>Invasion Science and Wildlife Ecology Group, School of Biological Sciences, The University of Adelaide, Adelaide, South Australia. <sup>15</sup>Brazilian Network to Fight Wildlife Trafficking (RENCTAS), Brasilia, Brazil. <sup>16</sup>Department of Biology, University of Oxford, Oxford, UK.

\*Corresponding author. Email: pmcardoso@ciencias.ulisboa.pt

## REFERENCES AND NOTES

- 1. C. S. Fukushima, S. Mammola, P. Cardoso, *Biol. Conserv.* **247**, 108503 (2020).
- M. Harfoot *et al.*, *Biol. Conserv.* 223, 47 (2018).
- 3. M. Halbwax, *Biol. Conserv.* **251**, 108798 (2020).
- European Commission, "Revision of the EU action plan against wildlife trafficking. COM/2022/581" (2022); https://eurlex.europa.eu/legal-content/EN/TXT? uri=COM %3A2022%3A581%3AFIN&gid=1667989

438184.

- EU Trade in Wildlife Exchange (2024); www.eu-twix.org.
  B. M. Marshall, C. T. Strine, A. C. Hughes,
- B. M. Marshall, C. T. Strine, A. C. Hughes, Nat. Comm. 11, 4738 (2020).
- 7. B. M. Marshall *et al.*, *Commun. Biol.* **5**, 448 (2022).
- M. Wilkinson *et al.*, Sci. Data **3**, 160018 (2016).
- 9. E. A. Eskew et al., Sci. Data **7**, 22 (2020). 10. L. Slobodian, A. Chatziantoniou, *Forum*
- Crime Soc. 9, 43 (2018).
- 11. A. Hughes et al., J. Environ. Manag. **341**, 117987 (2023).
- 12. D. W. S. Challender *et al.*, *Nat. Ecol. Evol.* **7**, 1211 (2023).

## COMPETING INTERESTS

D.V. is director of Oxford Biodiversity Research, a research consulting firm.

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