

## **Supplementary information for:**

### **Humanity's diverse predatory niche and its ecological consequences**

Chris T. Darimont<sup>1,2\*</sup> Rob Cooke<sup>3\*</sup>, Mathieu L. Bourbonnais<sup>4</sup>, Heather M. Bryan<sup>2,5</sup>,  
Stephanie M. Carlson<sup>6</sup>, James A. Estes<sup>7</sup>, Mauro Galetti<sup>8,9</sup>, Taal Levi<sup>10</sup>, Jessica L.  
Maclean<sup>1,2</sup>, Iain McKechnie<sup>11,12</sup>, Paul C. Paquet<sup>1,2</sup>, Boris Worm<sup>13,14</sup>

#### **Affiliations:**

<sup>1</sup>Department of Geography, University of Victoria; Victoria, Canada

<sup>2</sup>Raincoast Conservation Foundation; Sidney, Canada

<sup>3</sup>UK Centre for Ecology & Hydrology; Wallingford, UK

<sup>4</sup>Department of Earth, Environmental, and Geographic Sciences, University of British Columbia Okanagan; Kelowna, Canada

<sup>5</sup>Department of Ecosystem Science and Management, University of Northern British Columbia; Prince George, Canada

<sup>6</sup>Department of Environmental Science, Policy, and Management, University of California; Berkeley, USA

<sup>7</sup>Department of Ecology and Evolutionary Biology, University of California; Santa Cruz, USA

<sup>8</sup> São Paulo State University (UNESP), Department of Biodiversity, Rio Claro, SP, Brazil

<sup>9</sup> Kimberly Green Latin American and Caribbean Center, Florida International University (FIU), Miami, FL, USA

<sup>10</sup>Department of Fisheries, Wildlife, and Conservation Sciences, Oregon State University; Corvallis, USA

<sup>11</sup>Department of Anthropology, University of Victoria; Victoria, BC Canada

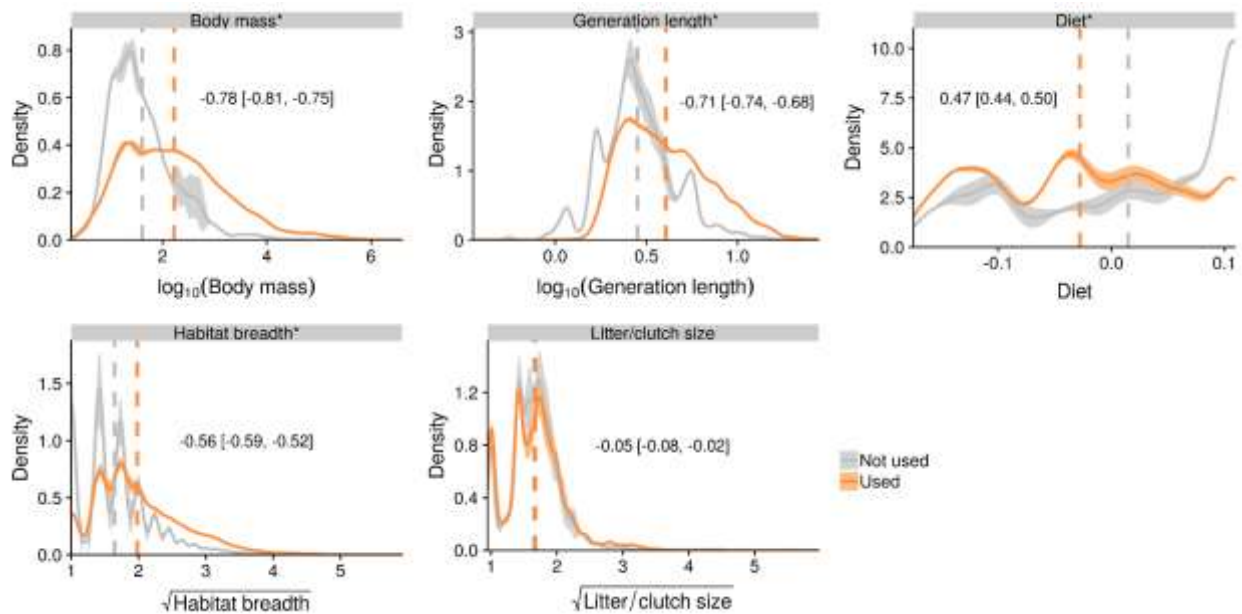
<sup>12</sup>Hakai Institute, Heriot Bay, Quadra Island; BC Canada

<sup>13</sup>Department of Biology, Dalhousie University; Halifax, Canada

<sup>14</sup>Ocean Frontier Institute, Dalhousie University; Halifax, Canada

\*= these authors contributed equally.

**Emails:** darimont@uvic.ca; RobOke@ceh.ac.uk.



**Supplementary Figure 1.** Individual trait distributions. Trait distributions across those terrestrial bird and mammal species not used (10,169 species; gray) and used (6,244 species; orange) by humans. Lines show the density distribution of the traits for each group with 95% confidence envelopes (imputation uncertainty). Dashed vertical lines indicate the mean of each distribution. Labelled are the relative effect sizes of the differences between the distributions with 95% confidence intervals. Asterisks indicate the traits with statistically different distributions ( $P \leq 0.05$ ), based on Mann-Whitney U tests (two-sided). Body mass:  $W = 19,408,512$ ,  $n_1 = 10,169$ ,  $n_2 = 6,244$ ,  $P = \sim 0$ ; Generation length:  $W = 20,245,963$ ,  $n_1 = 10,169$ ,  $n_2 = 6,244$ ,  $P = \sim 0$ ; Diet:  $W = 40,984,746$ ,  $n_1 = 10,169$ ,  $n_2 = 6,244$ ,  $P = \sim 0$ ; Habitat breadth:  $W = 22,234,960$ ,  $n_1 = 10,169$ ,  $n_2 = 6,244$ ,  $P = \sim 0$ ; Litter/clutch size:  $W = 31,489,292$ ,  $n_1 = 10,169$ ,  $n_2 = 6,244$ ,  $P = 0.42$ .

**Supplementary Table 1.** IUCN Use and Trade Classification – Version 1.0.

| <b>ID Number</b> | <b>End Use</b>                     | <b>Referred to in-text</b> |
|------------------|------------------------------------|----------------------------|
| 1                | Food – human                       | Food                       |
| 2                | Food – animal                      | Animal feed                |
| 3                | Medicine - human & veterinary      | Medicine                   |
| 4                | Poisons                            | Poisons                    |
| 5                | Manufacturing chemicals            |                            |
| 6                | Other chemicals                    |                            |
| 7                | Fuels                              |                            |
| 8                | Fibre                              |                            |
| 9                | Construction or structural         |                            |
| 10               | Wearing apparel, accessories       | Clothes                    |
| 11               | Other household goods              |                            |
| 12               | Handicrafts, jewelry, etc.         |                            |
| 13               | Pets/display animals, horticulture | Pets                       |
| 14               | Research                           |                            |
| 15               | Sport hunting/specimen collecting  | Collection                 |
| 16               | Establish ex-situ production       |                            |
| 17               | Other                              |                            |
| 18               | Unknown                            |                            |

**Supplementary Table 2.** Species identities depicted in Figure 2.

| Panel | Species                            | Common Name               |       | Class          | IUCN risk status      | Realm                   |         |
|-------|------------------------------------|---------------------------|-------|----------------|-----------------------|-------------------------|---------|
| c     | <i>Panthera leo</i>                | African lion              |       | Mammalia       | Vulnerable            | Terrestrial             |         |
| d     | <i>Salvelinus alpinus</i>          | Arctic char               |       | Actinopterygii | Least Concern         | Freshwater              |         |
| e     | <i>Thunnus thynnus</i>             | Atlantic bluefin tuna     |       | Actinopterygii | Endangered            | Marine                  |         |
| f     | <i>Thalurania glaucopis</i>        | Violet-capped woodnymph   |       | Aves           | Least Concern         | Terrestrial             |         |
| g     | <i>Crocodylus acutus</i>           | American crocodile        |       | Reptilia       | Vulnerable            | Terrestrial, Freshwater | Marine, |
| h     | <i>Chaetodon rainfordi</i>         | Rainford's butterflyfish  |       | Actinopterygii | Near Threatened       | Marine                  |         |
| i     | <i>Manis culionensis</i>           | Philippine pangolin       |       | Mammalia       | Critically Endangered | Terrestrial             |         |
| J     | <i>Ceratotherium simum cottoni</i> | Northern white rhinoceros | White | Mammalia       | Critically Endangered | Terrestrial             |         |
| k     | <i>Ursus thibetanus</i>            | Asiatic black bear        |       | Mammalia       | Vulnerable            | Terrestrial             |         |
| l     | <i>Prionace glauca</i>             | Blue shark                |       | Chondrichthyes | Near Threatened       | Marine                  |         |
| m     | <i>Bison bison</i>                 | American bison            |       | Mammalia       | Near Threatened       | Terrestrial             |         |
| n     | <i>Phyllobates terribilis</i>      | Golden poison frog        |       | Amphibia       | Endangered            | Terrestrial, Freshwater |         |
| o     | <i>Oncorhynchus nerka</i>          | Sockeye salmon            |       | Actinopterygii | Least Concern         | Freshwater, Marine      |         |
| P     | <i>Trimeresurus albolabris</i>     | White-lipped viper        | Tree  | Reptilia       | Least Concern         | Terrestrial             |         |
| q     | <i>Pharomachrus mocinno</i>        | Resplendent quetzal       |       | Aves           | Near Threatened       | Terrestrial             |         |
| r     | <i>Rhinoplax vigil</i>             | Helmeted hornbill         |       | Aves           | Critically Endangered | Terrestrial             |         |
| s     | <i>Macaca mulatta</i>              | Rhesus macaque            |       | Mammalia       | Least Concern         | Terrestrial             |         |