The dark web trades wildlife, but mostly as drugs

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Metadata of data files

# Appendix S1: Full list of search terms

Refer to csv file named “Appendix\_S01\_dark\_web\_search\_terms.csv” for the full list of search terms supplied to search through DATACRYPTO.

# Appendix S3: Taxa found traded on the dark web but were excluded from analysis

Refer to csv file named “Appendix\_S03\_excluded\_taxa.csv” for the full list of taxa we found traded on the dark web but we excluded from our analyses because they are commercially produced for either agricultural, forestry, aquaculture, or apiculture reasons. Refer to Table S3 for a description of the columns. Note, we excluded all species of the genera *Cannabis*, who trade was widespread on the dark web (>100k advertisement’s) and is also produced commercially. Finally, we excluded two advertisements trading human (*Homo sapiens*) skulls, because humans are not traditionally considered being part of wildlife trade.

Table S3. Column descriptions for the data file “Appendix\_S03\_excluded\_taxa.csv”

|  |  |
| --- | --- |
| **Column** | **Description** |
| gbif\_name | The name of the taxon according to GBIF |
| gbif\_rank | The taxonomic rank of the taxon (i.e., species, genus) according to GBIF |
| gbif\_id | GBIF’s unique identifier for the taxon |
| reason\_excluded | The reason why the taxon was excluded from our analysis. |
| kingdom | The taxonomic kingdom of the taxon according to GBIF |
| phylum | The taxonomic phylum of the taxon according to GBIF |
| class | The taxonomic class of the taxon according to GBIF |
| order | The taxonomic order of the taxon according to GBIF |
| family | The taxonomic family of the taxon according to GBIF |
| genus | The taxonomic genera of the taxon according to GBIF |
| species | The taxonomic species of the taxon according to GBIF |

# Appendix S8: Dataset of taxon-advertisement combinations

Refer to csv file named “Appendix\_S08\_taxon\_advertisement\_dataset.csv” for the full dataset of each taxon-advertisement combination. Refer to Table S8 for a description of the columns.

Table S8. Column descriptions for the data file “Appendix\_S08\_taxon\_advertisement\_dataset.csv”

|  |  |
| --- | --- |
| **Column** | **Description** |
| gbif\_name | The name of the taxon according to GBIF |
| ad\_id | A unique identifier for the advertisements. Taxon-advertisements from the same advertisements with have the same ‘ad\_id’. |
| market\_id | A unique identifier for the marketplace the advertisement was advertised in |
| seller\_id | A unique identifier for the seller who listed the advertisement |
| date | The date the advertisement was recorded by DATACRYPTO |
| category | The category of the taxon-advertisement. See Appendix S4 for category definitions. |
| end\_use | The end use of the taxon-advertisement. See Appendix S5 for end use definitions. |
| how\_processed | How the wildlife was processed. |
| what/physical | What physical component of the wildlife was being advertised. |
| wild\_harvested | If the wildlife was being advertised as wild harvested. |

# Appendix S10: Dataset of taxa traded on the dark web and their characteristics

Refer to csv file named “Appendix\_S10\_taxa\_key.csv” for the traded taxa and their characteristics, including: taxonomy, drug information, IUCN status, and GISD status. Refer to Table S10 for a description of the columns.

Table S10. Column descriptions for the data file “Appendix\_S10\_taxa\_key.csv”

|  |  |
| --- | --- |
| **Column** | **Description** |
| gbif\_id | GBIF’s unique identifier for the taxon |
| gbif\_name | The name of the taxon according to GBIF |
| gbif\_rank | The taxonomic rank of the taxon (i.e., species, genus) according to GBIF |
| kingdom | The taxonomic kingdom of the taxon according to GBIF |
| phylum | The taxonomic phylum of the taxon according to GBIF |
| class | The taxonomic class of the taxon according to GBIF |
| order | The taxonomic order of the taxon according to GBIF |
| family | The taxonomic family of the taxon according to GBIF |
| genus | The taxonomic genera of the taxon according to GBIF |
| species | The taxonomic species of the taxon according to GBIF |
| subspecies | The taxonomic subspecies of the taxon according to GBIF |
| iucn | The IUCN Red List status for each species. NA indicates the taxon is not a species while NE indicates the species has not been evaluated by the IUCN to date. |
| iucn\_threat | The level 5 (Biological resource use) IUCN threat code for a species. For more information, see <https://www.iucnredlist.org/resources/threat-classification-scheme> |
| gisd\_listed | If the species is listed as invasive in the GISD. |
| drug\_class | The drug class of the species, if it is a verified drug. See Appendix S6 for methods. |
| drug\_chemical | The active chemical of species, if it is a verified drug. See Appendix S6 for methods. |
| drug\_precursor | If the species contains a precursor, the precursor chemical is listed in this column. See Appendix S6 for methods. |
| drug\_chemical\_facilitated | If the species contains a chemical that is a facilitator, the facilitator chemical is listed in this column. See Appendix S6 for methods. |
| drug\_reference | The citation to a peer-reviewed research article verifying the species contains a chemical that is a drug. See Table S6c for the full reference. |

# Appendix S14: Dataset of plant species richness by geographic areas

Refer to csv file named “Appendix\_S14\_plant\_spp\_richness” for the data file containing the plant species native richness by geographic area. See Appendix S7 for methods. Refer to Table S14 for a description of the columns.

Table S14. Column descriptions for the data file “Appendix\_S14\_plant\_spp\_richness”

|  |  |
| --- | --- |
| Column | Description |
| LEVEL3\_COD | The code of the country/subdivision according to WGSRPD. See Appendix S7 for details. |
| LEVEL3\_NAM | The name of the country/subdivision according to WGSRPD. See Appendix S7 for details. |
| n\_spp | The number of plant species native to the given location. See Appendix S7 for details. |
| category | The category of what the ‘n\_spp’ value refers to:   * “All species” indicates this row represents the species richness of *all* plant species in the given location. * “Drug species” indicates this row represents the species richness of all species *with* verified drug properties in the given location. * “Non-drug species” indicates this row represents the species richness of all species *without* verified drug properties in the given location. |