

Supplementary Information

Contents:

Supplementary Methods 1: Approximating research effort bias for non-host species within PREDICTS.

Supplementary Table 1: Hosts of human-shared parasites and pathogens with corresponding records in the PREDICTS database (n=376).

Supplementary Table 2: Summary of PREDICTS studies included in the full dataset.

Supplementary Table 3: Structure of Bayesian mixed-effects models of host richness and total abundance (full dataset).

Supplementary Table 4: Structure of Bayesian mixed-effects models of host richness and total abundance (mammal reservoirs subset).

Supplementary Table 5: Fixed-effects posterior distributions from community models.

Supplementary Table 6: Fixed-effects posterior distributions from order-level models (occurrence and zero-truncated abundance).

Supplementary Table 7: Fixed-effects posterior estimates from mammal pathogen richness models.

Supplementary Table 8: Biodiversity, environmental and host-pathogen data sources.

Supplementary Methods 1: Approximating research effort bias for non-host species within PREDICTS. We use a bootstrapping approach to propagate species-level uncertainty in zoonotic host status into community models. Each iteration transitions a proportion of non-hosts into host status, with species transitioned at a rate equal to their approximated likelihood of being a false classification (i.e. a host, but not detected) given research effort (PubMed publication count 1950-2018) and taxonomic group. We calculate a trait-free approximation of false classification rate for each non-host species in PREDICTS, by leveraging information on the distribution of publication counts for currently known zoonotic hosts within the same taxonomic order.

Specifically, we consider ‘non-hosts’ to be a mixture of true and false classifications, and that false classification probability is influenced by (1) π , the probability of being a host, and (2) ρ_m , the probability of a zoonotic pathogen being detected in a host species after m publications. Data constraints mean that neither of these parameters is directly estimable; for example, true zoonotic host status is influenced by phylogeny, ecological and life-history traits, which are the focus of ongoing research beyond the scope of this study¹. We therefore approximate these quantities as follows:

Firstly, we assume that π (relative probability of a species being a zoonotic host) is proportional to the number of currently known hosts in the same order i , such that:

$$\pi_i = \frac{\text{Number of hosts in order } i}{\text{Total number of species in order } i}$$

This may under- or over-estimate true host potential at individual species level; for example, since low research effort is often associated with traits that predict lower competence in multi-host systems (e.g. low population densities^{2,3}), it is possible that averaging across entire orders may tend to overestimate host potential in poorly researched species. Nonetheless, for our purposes, this approach is sufficient to capture current understanding of broad cross-taxa differences in host potential (e.g. that primates in general are more likely to host zoonoses than insects).

Secondly, we assume that ρ_m (the probability of a zoonotic pathogen being detected in a host) accrues and saturates with increasing m (number of publications). This process cannot be observed directly due to the snapshot nature of publication counts. Therefore, for each publication count value x we approximate $\rho_{m,i}$ as $P(m \leq x)$ across all currently known hosts within the same taxonomic group i (i.e. the cumulative distribution; Extended Data 2a). Although a simplification, this is sufficient to describe how publication effort is distributed for known hosts across taxonomic groups (e.g. that 50% of known rodent hosts have 15 or fewer publications).

We can then approximate the false classification rate (FCR: the probability of being a host and *not* detected) for a species in taxonomic order i and with publication count m , as:

$$\text{FCR} = P(\text{False classification} \mid m, i) = \pi_i * (1 - \rho_{m,i})$$

We use species-specific FCR estimates as transition rates in land use model bootstrapping (with each non-host species transitioned as a Bernoulli trial with $p = \text{FCR}$; Methods, Extended Data 2b-e). For mammals and birds, we calculate these estimates using input data for all extant species and orders (species lists via IUCN, and host status extracted from our host-pathogen database). For all other taxa, because they comprise a relatively small number of hosts in our dataset, we calculate these estimates using only species within PREDICTS as input data (assuming a representative sample). For taxonomic orders that contain no known host species, we fix π at 0.01 (i.e. species transition at a base rate of 1 in 100 bootstraps) and calculate ρ_m at the next-lowest taxonomic level (Class).

Supplementary Table 1: Hosts of human-shared parasites and pathogens with corresponding records in the PREDICTS database (n=376). The table lists all animal species in the PREDICTS database that have evidence of an association with at least one human-shared pathogen or parasite, and includes summary information on each species' known associated pathogen diversity, pathogen richness (of both human-shared and non human-shared pathogens) and host-pathogen data sources. The 'evidence of host status' column denotes the strength of evidence for assigned host status: either cargo-carrier (broadest), serological, or pathogen detection/isolation (strictest). Species associated with at least one zoonotic agent (aetiologic agent of a specific human disease with animal reservoir) are scored '1' in the 'zoonotic agent host' column (for mammals this association is based on serological or stronger evidence). 'Num studies' and 'Num sites' columns indicate the amount of sampling for each species in PREDICTS. Full details of definitions and data sources are provided in Methods. A more comprehensive version of this table (including pathogen species names), and a table of all non-host species in the study dataset, is provided in the data repository ([doi: 10.6084/m9.figshare.7624289](https://doi.org/10.6084/m9.figshare.7624289)).

Host binomial	Class	Order	Human-shared pathogen diversity	Evidence of host status	Zoonotic agent host	Pathogen richness (human-shared)	Pathogen richness (not human/domestic-shared)	Data sources	Num studies	Num sites
<i>Lithobates catesbeianus</i>	Amphibia	Anura	bacteria/rickettsia	Cargo-carrier	0	3	11	EID2	1	61
<i>Litoria caerulea</i>	Amphibia	Anura	helminth	Cargo-carrier	1	1	1	EID2	2	200
<i>Oribatula tibialis</i>	Arachnida	Sarcoptiformes	fungi	Cargo-carrier	0	1	1	EID2	3	110
<i>Steganacarus magnus</i>	Arachnida	Sarcoptiformes	fungi	Cargo-carrier	0	1	1	EID2	1	20
<i>Accipiter cooperii</i>	Aves	Accipitriformes	virus	Cargo-carrier	1	1	3	EID2	1	300
<i>Accipiter gentilis</i>	Aves	Accipitriformes	virus	Cargo-carrier	1	1	0	EID2	1	124
<i>Accipiter gularis</i>	Aves	Accipitriformes	virus	Cargo-carrier	1	1	0	EID2	3	82
<i>Accipiter trivirgatus</i>	Aves	Accipitriformes	virus	Cargo-carrier	1	1	0	EID2	2	76
<i>Buteo buteo</i>	Aves	Accipitriformes	virus	Cargo-carrier	1	1	2	EID2	7	841
<i>Buteo jamaicensis</i>	Aves	Accipitriformes	virus	Cargo-carrier	1	1	2	EID2	4	428
<i>Buteo lagopus</i>	Aves	Accipitriformes	virus	Cargo-carrier	1	1	0	EID2	1	21
<i>Buteo lineatus</i>	Aves	Accipitriformes	virus	Cargo-carrier	1	1	1	EID2	1	300
<i>Milvus migrans</i>	Aves	Accipitriformes	virus	Cargo-carrier	1	1	0	EID2	7	596
<i>Pandion haliaetus</i>	Aves	Accipitriformes	bacteria/rickettsia	Cargo-carrier	1	1	0	EID2	2	85
<i>Aix sponsa</i>	Aves	Anseriformes	virus	Cargo-carrier	1	2	0	EID2	1	300
<i>Alopochen aegyptiaca</i>	Aves	Anseriformes	virus	Cargo-carrier	1	1	0	EID2	4	757
<i>Anas capensis</i>	Aves	Anseriformes	virus	Cargo-carrier	1	1	0	EID2	1	39
<i>Anas querquedula</i>	Aves	Anseriformes	virus	Cargo-carrier	1	2	1	EID2	1	42
<i>Anas superciliosa</i>	Aves	Anseriformes	virus	Cargo-carrier	1	1	0	EID2	2	183
<i>Dendrocygna viduata</i>	Aves	Anseriformes	virus	Cargo-carrier	1	1	0	EID2	1	360
<i>Netta peposaca</i>	Aves	Anseriformes	virus	Cargo-carrier	1	1	0	EID2	1	360
<i>Upupa epops</i>	Aves	Bucerotiformes	bacteria/rickettsia	Cargo-carrier	0	1	0	EID2	7	391
<i>Podargus strigoides</i>	Aves	Caprimulgiformes	protozoa	Cargo-carrier	1	1	0	EID2	3	232
<i>Dromaius novaehollandiae</i>	Aves	Casuariiformes	virus	Cargo-carrier	1	2	5	EID2	2	61
<i>Burhinus oedinenus</i>	Aves	Charadriiformes	bacteria/rickettsia	Cargo-carrier	1	1	0	EID2	2	237

<i>Chroicocephalus ridibundus</i>	Aves	Charadriiformes	helminth, virus	Cargo-carrier	1	3	1	EID2	1	42
<i>Larus delawarensis</i>	Aves	Charadriiformes	bacteria/rickettsia, virus	Cargo-carrier	1	2	3	EID2	1	300
<i>Larus dominicanus</i>	Aves	Charadriiformes	protozoa, virus	Cargo-carrier	1	2	0	EID2	1	6
<i>Limosa limosa</i>	Aves	Charadriiformes	bacteria/rickettsia	Cargo-carrier	1	1	0	EID2	2	49
<i>Tringa totanus</i>	Aves	Charadriiformes	bacteria/rickettsia	Cargo-carrier	1	1	0	EID2	2	49
<i>Ciconia ciconia</i>	Aves	Ciconiiformes	bacteria/rickettsia, virus, fungi	Cargo-carrier	1	3	1	EID2	3	321
<i>Geotrygon montana</i>	Aves	Columbiformes	virus	Cargo-carrier	1	1	0	EID2	10	163
<i>Streptopelia orientalis</i>	Aves	Columbiformes	bacteria/rickettsia	Cargo-carrier	1	1	0	EID2	7	216
<i>Zenaida macroura</i>	Aves	Columbiformes	virus	Cargo-carrier	1	4	1	EID2	1	300
<i>Piaya minuta</i>	Aves	Cuculiformes	virus	Cargo-carrier	1	1	0	EID2	1	150
<i>Falco naumanni</i>	Aves	Falconiformes	bacteria/rickettsia, virus	Cargo-carrier	1	2	0	EID2	1	39
<i>Falco peregrinus</i>	Aves	Falconiformes	virus	Cargo-carrier	1	1	2	EID2	2	250
<i>Falco sparverius</i>	Aves	Falconiformes	virus	Cargo-carrier	1	1	0	EID2	6	799
<i>Falco tinnunculus</i>	Aves	Falconiformes	virus, helminth	Cargo-carrier	1	2	1	EID2	3	90
<i>Alectoris chukar</i>	Aves	Galliformes	virus	Cargo-carrier	1	1	0	EID2	2	52
<i>Bonasa umbellus</i>	Aves	Galliformes	virus	Cargo-carrier	1	1	0	EID2	1	300
<i>Lophura leucomelanos</i>	Aves	Galliformes	virus	Cargo-carrier	1	1	0	EID2	2	8
<i>Lophura nycthemera</i>	Aves	Galliformes	virus	Cargo-carrier	1	1	0	EID2	2	50
<i>Perdix perdix</i>	Aves	Galliformes	bacteria/rickettsia	Cargo-carrier	1	1	0	EID2	1	42
<i>Fulica atra</i>	Aves	Gruiformes	protozoa, virus	Cargo-carrier	1	2	0	EID2	1	42
<i>Gallinula cinerea</i>	Aves	Gruiformes	virus	Cargo-carrier	1	1	0	EID2	1	3
<i>Agelaius phoeniceus</i>	Aves	Passeriformes	virus	Cargo-carrier	1	1	1	EID2	1	300
<i>Anthus campestris</i>	Aves	Passeriformes	bacteria/rickettsia	Cargo-carrier	1	1	0	EID2	1	42
<i>Bombycilla cedrorum</i>	Aves	Passeriformes	virus	Cargo-carrier	1	1	0	EID2	4	582
<i>Carduelis carduelis</i>	Aves	Passeriformes	bacteria/rickettsia	Cargo-carrier	1	1	0	EID2	7	355
<i>Catharus fuscescens</i>	Aves	Passeriformes	virus	Cargo-carrier	1	1	0	EID2	4	537
<i>Catharus guttatus</i>	Aves	Passeriformes	virus	Cargo-carrier	1	1	1	EID2	4	297
<i>Catharus ustulatus</i>	Aves	Passeriformes	virus	Cargo-carrier	1	1	0	EID2	5	175
<i>Chloris chloris</i>	Aves	Passeriformes	bacteria/rickettsia	Cargo-carrier	1	1	1	EID2	7	375
<i>Coloelus monedula</i>	Aves	Passeriformes	virus, bacteria/rickettsia	Cargo-carrier	1	3	0	EID2	2	248
<i>Conopophaga aurita</i>	Aves	Passeriformes	virus	Cargo-carrier	1	1	0	EID2	3	53
<i>Contopus sordidulus</i>	Aves	Passeriformes	virus	Cargo-carrier	1	1	0	EID2	1	67
<i>Corvus brachyrhynchos</i>	Aves	Passeriformes	virus	Cargo-carrier	1	2	0	EID2	1	300
<i>Corvus cornix</i>	Aves	Passeriformes	bacteria/rickettsia, virus	Cargo-carrier	1	2	1	EID2	1	42
<i>Corvus corone</i>	Aves	Passeriformes	virus	Cargo-carrier	1	1	3	EID2	2	232
<i>Corvus frugilegus</i>	Aves	Passeriformes	virus	Cargo-carrier	1	2	2	EID2	1	42
<i>Corvus splendens</i>	Aves	Passeriformes	virus	Cargo-carrier	1	1	0	EID2	6	182
<i>Cyanocitta cristata</i>	Aves	Passeriformes	virus	Cargo-carrier	1	2	0	EID2	2	315
<i>Cyanopica cyanus</i>	Aves	Passeriformes	bacteria/rickettsia	Cargo-carrier	1	2	0	EID2	1	48
<i>Diuca diuca</i>	Aves	Passeriformes	bacteria/rickettsia	Cargo-carrier	1	1	0	EID2	2	56
<i>Emberiza cioides</i>	Aves	Passeriformes	bacteria/rickettsia	Cargo-carrier	1	1	0	EID2	4	84

<i>Empidonax alnorum</i>	Aves	Passeriformes	virus	Cargo-carrier	1	1	0	EID2	2	315
<i>Garrulus glandarius</i>	Aves	Passeriformes	virus	Cargo-carrier	1	1	0	EID2	10	524
<i>Geothlypis tolmiei</i>	Aves	Passeriformes	virus	Cargo-carrier	1	1	0	EID2	1	79
<i>Grallina cyanoleuca</i>	Aves	Passeriformes	virus	Cargo-carrier	1	1	0	EID2	4	235
<i>Haemorhous mexicanus</i>	Aves	Passeriformes	virus	Cargo-carrier	1	1	2	EID2	2	302
<i>Hirundo rustica</i>	Aves	Passeriformes	bacteria/rickettsia	Cargo-carrier	1	1	0	EID2	10	733
<i>Hypocnemis cantator</i>	Aves	Passeriformes	virus	Cargo-carrier	1	1	0	EID2	6	91
<i>Hypsipetes amaurotis</i>	Aves	Passeriformes	bacteria/rickettsia	Cargo-carrier	1	2	0	EID2	3	42
<i>Icteria virens</i>	Aves	Passeriformes	virus	Cargo-carrier	1	1	0	EID2	2	379
<i>Isleria hauxwelli</i>	Aves	Passeriformes	virus	Cargo-carrier	1	1	0	EID2	2	62
<i>Lanius schach</i>	Aves	Passeriformes	virus	Cargo-carrier	1	1	0	EID2	4	148
<i>Leiothrix argenteauris</i>	Aves	Passeriformes	virus	Cargo-carrier	1	1	0	EID2	1	6
<i>Leiothrix lutea</i>	Aves	Passeriformes	virus	Cargo-carrier	1	1	0	EID2	2	44
<i>Lonchura striata</i>	Aves	Passeriformes	virus	Cargo-carrier	1	1	0	EID2	7	163
<i>Melospiza melodia</i>	Aves	Passeriformes	virus	Cargo-carrier	1	2	0	EID2	2	315
<i>Microeca fascians</i>	Aves	Passeriformes	virus	Cargo-carrier	1	1	0	EID2	3	232
<i>Mimus polyglottos</i>	Aves	Passeriformes	virus	Cargo-carrier	1	1	0	EID2	1	40
<i>Molothrus ater</i>	Aves	Passeriformes	virus	Cargo-carrier	1	1	1	EID2	3	522
<i>Motacilla alba</i>	Aves	Passeriformes	virus	Cargo-carrier	1	1	0	EID2	5	155
<i>Myiobius barbatus</i>	Aves	Passeriformes	virus	Cargo-carrier	1	1	0	EID2	7	162
<i>Parkesia noveboracensis</i>	Aves	Passeriformes	virus	Cargo-carrier	1	1	0	EID2	1	79
<i>Parus major</i>	Aves	Passeriformes	virus	Cargo-carrier	1	1	1	EID2	14	605
<i>Passer domesticus</i>	Aves	Passeriformes	virus, protozoa	Cargo-carrier	1	5	4	EID2, Plourde	11	1100
<i>Passer montanus</i>	Aves	Passeriformes	bacteria/rickettsia, virus	Cargo-carrier	1	3	0	EID2	7	370
<i>Passerella iliaca</i>	Aves	Passeriformes	virus	Cargo-carrier	1	1	0	EID2	1	60
<i>Passerina cyanea</i>	Aves	Passeriformes	virus	Cargo-carrier	1	1	0	EID2	4	601
<i>Pica pica</i>	Aves	Passeriformes	virus	Cargo-carrier	1	2	1	EID2	2	248
<i>Poecile montanus</i>	Aves	Passeriformes	bacteria/rickettsia	Cargo-carrier	1	1	0	EID2	5	196
<i>Poephila personata</i>	Aves	Passeriformes	virus	Cargo-carrier	1	1	0	EID2	1	171
<i>Querula purpurata</i>	Aves	Passeriformes	bacteria/rickettsia	Cargo-carrier	1	1	0	EID2	1	3
<i>Quiscalus quiscula</i>	Aves	Passeriformes	virus	Cargo-carrier	1	3	1	EID2	1	300
<i>Regulus satrapa</i>	Aves	Passeriformes	virus	Cargo-carrier	1	1	0	EID2	1	60
<i>Rhipidura fuliginosa</i>	Aves	Passeriformes	bacteria/rickettsia	Cargo-carrier	0	1	0	EID2	4	220
<i>Saltator maximus</i>	Aves	Passeriformes	virus	Cargo-carrier	1	1	0	EID2	8	276
<i>Sialia sialis</i>	Aves	Passeriformes	bacteria/rickettsia	Cargo-carrier	1	7	7	EID2	2	379
<i>Spodiopsar cinereus</i>	Aves	Passeriformes	bacteria/rickettsia	Cargo-carrier	1	2	0	EID2	1	42
<i>Spodiopsar sericeus</i>	Aves	Passeriformes	virus	Cargo-carrier	1	1	0	EID2	1	42
<i>Sturnus vulgaris</i>	Aves	Passeriformes	virus, bacteria/rickettsia	Cargo-carrier	1	3	2	EID2	6	434
<i>Taeniopygia guttata</i>	Aves	Passeriformes	bacteria/rickettsia	Cargo-carrier	1	4	1	EID2	2	61
<i>Turdus amaurochalinus</i>	Aves	Passeriformes	bacteria/rickettsia	Cargo-carrier	1	1	0	EID2	5	372
<i>Turdus merula</i>	Aves	Passeriformes	bacteria/rickettsia, virus	Cargo-carrier	1	6	5	EID2, Plourde	10	449

<i>Turdus migratorius</i>	Aves	Passeriformes	virus	Cargo-carrier	1	2	1	EID2	5	597
<i>Turdus philomelos</i>	Aves	Passeriformes	bacteria/rickettsia	Cargo-carrier	1	1	1	EID2, Plourde	6	157
<i>Vireo griseus</i>	Aves	Passeriformes	virus	Cargo-carrier	1	1	0	EID2	1	79
<i>Vireo olivaceus</i>	Aves	Passeriformes	virus	Cargo-carrier	1	1	0	EID2	15	1162
<i>Willisornis poecilinotus</i>	Aves	Passeriformes	virus	Cargo-carrier	1	1	0	EID2	6	91
<i>Zosterops japonicus</i>	Aves	Passeriformes	bacteria/rickettsia, virus	Cargo-carrier	1	2	0	EID2	6	88
<i>Zosterops lateralis</i>	Aves	Passeriformes	bacteria/rickettsia	Cargo-carrier	0	1	1	EID2	3	78
<i>Ardea alba</i>	Aves	Pelecaniformes	virus	Cargo-carrier	1	1	1	EID2	5	524
<i>Ardea cinerea</i>	Aves	Pelecaniformes	helminth, virus	Cargo-carrier	1	2	2	EID2	3	155
<i>Bubulcus ibis</i>	Aves	Pelecaniformes	virus	Cargo-carrier	1	1	0	EID2	13	1930
<i>Butorides virescens</i>	Aves	Pelecaniformes	virus	Cargo-carrier	1	3	1	EID2	4	486
<i>Egretta garzetta</i>	Aves	Pelecaniformes	bacteria/rickettsia, virus	Cargo-carrier	1	2	1	EID2, Plourde	5	308
<i>Nycticorax nycticorax</i>	Aves	Pelecaniformes	virus	Cargo-carrier	1	1	2	EID2, Plourde	1	3
<i>Threskiornis aethiopicus</i>	Aves	Pelecaniformes	virus	Cargo-carrier	1	1	0	EID2	3	701
<i>Colaptes auratus</i>	Aves	Piciformes	virus	Cargo-carrier	1	2	0	EID2	3	439
<i>Dendrocopos major</i>	Aves	Piciformes	virus	Cargo-carrier	1	1	0	EID2	7	482
<i>Picoides pubescens</i>	Aves	Piciformes	bacteria/rickettsia	Cargo-carrier	1	1	1	EID2	1	300
<i>Amazona aestiva</i>	Aves	Psittaciformes	virus, bacteria/rickettsia	Cargo-carrier	1	2	1	EID2	2	7
<i>Amazona farinosa</i>	Aves	Psittaciformes	bacteria/rickettsia	Cargo-carrier	1	1	0	EID2	3	27
<i>Ara ararauna</i>	Aves	Psittaciformes	virus	Cargo-carrier	1	1	0	EID2	3	55
<i>Ara chloropterus</i>	Aves	Psittaciformes	virus	Cargo-carrier	1	1	0	EID2	2	15
<i>Aratinga acuticaudata</i>	Aves	Psittaciformes	bacteria/rickettsia	Cargo-carrier	1	1	0	EID2	1	3
<i>Aratinga pertinax</i>	Aves	Psittaciformes	bacteria/rickettsia	Cargo-carrier	1	1	0	EID2	3	21
<i>Cacatua alba</i>	Aves	Psittaciformes	virus, fungi	Cargo-carrier	1	2	0	EID2	1	3
<i>Derophtus accipitrinus</i>	Aves	Psittaciformes	virus	Cargo-carrier	1	1	0	EID2	2	15
<i>Eeclctus roratus</i>	Aves	Psittaciformes	virus, fungi	Cargo-carrier	1	2	0	EID2	3	20
<i>Eolophus roseicapilla</i>	Aves	Psittaciformes	virus	Cargo-carrier	1	1	0	EID2	3	232
<i>Lorius lory</i>	Aves	Psittaciformes	bacteria/rickettsia	Cargo-carrier	1	1	0	EID2	3	20
<i>Pionites melanocephalus</i>	Aves	Psittaciformes	bacteria/rickettsia	Cargo-carrier	1	1	0	EID2	3	27
<i>Pionus fuscus</i>	Aves	Psittaciformes	virus	Cargo-carrier	1	1	0	EID2	3	27
<i>Pionus maximiliani</i>	Aves	Psittaciformes	virus	Cargo-carrier	1	1	0	EID2	3	9
<i>Pionus menstruus</i>	Aves	Psittaciformes	virus	Cargo-carrier	1	1	0	EID2	4	94
<i>Poicephalus gulielmi</i>	Aves	Psittaciformes	bacteria/rickettsia	Cargo-carrier	1	1	0	EID2	1	16
<i>Poicephalus meyeri</i>	Aves	Psittaciformes	bacteria/rickettsia	Cargo-carrier	1	1	0	EID2	2	662
<i>Primolius auricollis</i>	Aves	Psittaciformes	bacteria/rickettsia	Cargo-carrier	1	1	0	EID2	1	4
<i>Probosciger aterrimus</i>	Aves	Psittaciformes	virus	Cargo-carrier	1	1	0	EID2	3	20
<i>Psittacula krameri</i>	Aves	Psittaciformes	protozoa	Cargo-carrier	1	1	1	EID2	3	66
<i>Psittacus erithacus</i>	Aves	Psittaciformes	virus, bacteria/rickettsia	Cargo-carrier	1	2	2	EID2	3	114
<i>Trichoglossus haematodus</i>	Aves	Psittaciformes	bacteria/rickettsia	Cargo-carrier	1	1	1	EID2	7	255
<i>Rhea americana</i>	Aves	Rheiformes	protozoa	Cargo-carrier	1	1	0	EID2	1	5
<i>Asio otus</i>	Aves	Strigiformes	bacteria/rickettsia, virus	Cargo-carrier	1	2	0	EID2	2	318

<i>Athene noctua</i>	Aves	Strigiformes	bacteria/rickettsia, virus	Cargo-carrier	1	2	0	EID2	2	318
<i>Otus scops</i>	Aves	Strigiformes	bacteria/rickettsia	Cargo-carrier	1	1	0	EID2	2	318
<i>Arion lusitanicus</i>	Gastropoda		bacteria/rickettsia	Cargo-carrier	1	5	4	EID2	1	92
<i>Helix pomatia</i>	Gastropoda	Stylommatophora	bacteria/rickettsia	Cargo-carrier	1	4	5	EID2	1	34
<i>Macrotermes michaelseni</i>	Insecta	Blattodea	bacteria/rickettsia	Cargo-carrier	1	2	1	EID2	1	10
<i>Alphitobius diaperinus</i>	Insecta	Coleoptera	bacteria/rickettsia	Cargo-carrier	1	1	0	EID2	1	30
<i>Brassicogethes aeneus</i>	Insecta	Coleoptera	fungi	Cargo-carrier	0	1	1	EID2	3	187
<i>Costelytra zealandica</i>	Insecta	Coleoptera	bacteria/rickettsia	Cargo-carrier	1	5	2	EID2	3	38
<i>Dendroctonus rufipennis</i>	Insecta	Coleoptera	fungi, bacteria/rickettsia	Cargo-carrier	1	4	10	EID2	1	80
<i>Dryocoetes autographus</i>	Insecta	Coleoptera	fungi	Cargo-carrier	0	2	6	EID2	3	187
<i>Harmonia axyridis</i>	Insecta	Coleoptera	bacteria/rickettsia	Cargo-carrier	1	3	1	EID2	1	8
<i>Hylurgus ligniperda</i>	Insecta	Coleoptera	fungi	Cargo-carrier	0	4	1	EID2	1	5
<i>Ips pini</i>	Insecta	Coleoptera	fungi	Cargo-carrier	0	1	4	EID2	1	80
<i>Orthotomicus erosus</i>	Insecta	Coleoptera	fungi	Cargo-carrier	0	3	7	EID2	1	5
<i>Sitona discoideus</i>	Insecta	Coleoptera	fungi	Cargo-carrier	0	1	0	EID2	2	160
<i>Tenebrio molitor</i>	Insecta	Coleoptera	helminth	Cargo-carrier	1	1	3	EID2, Plourde	1	27
<i>Aedes aegypti</i>	Insecta	Diptera	bacteria/rickettsia, virus, helminth	Cargo-carrier	1	7	4	EID2	1	7
<i>Anopheles triannulatus</i>	Insecta	Diptera	virus	Cargo-carrier	1	1	0	EID2	1	7
<i>Culex coronator</i>	Insecta	Diptera	virus	Cargo-carrier	1	2	1	EID2	1	7
<i>Culex portesi</i>	Insecta	Diptera	virus	Cargo-carrier	1	2	0	EID2	1	7
<i>Culex quinquefasciatus</i>	Insecta	Diptera	bacteria/rickettsia, virus	Cargo-carrier	1	53	33	EID2	1	7
<i>Drosophila melanogaster</i>	Insecta	Diptera	bacteria/rickettsia	Cargo-carrier	1	1	5	EID2	3	13
<i>Psorophora ferox</i>	Insecta	Diptera	virus	Cargo-carrier	1	2	1	EID2	1	7
<i>Acyrtosiphon pisum</i>	Insecta	Hemiptera	fungi	Cargo-carrier	0	1	3	EID2	2	168
<i>Toxoptera aurantii</i>	Insecta	Hemiptera	bacteria/rickettsia	Cargo-carrier	0	1	1	EID2	1	152
<i>Apis cerana</i>	Insecta	Hymenoptera	bacteria/rickettsia	Cargo-carrier	1	10	2	EID2	1	6
<i>Solenopsis invicta</i>	Insecta	Hymenoptera	bacteria/rickettsia	Cargo-carrier	1	11	1	EID2	1	12
<i>Vespa crabro</i>	Insecta	Hymenoptera	fungi	Cargo-carrier	0	1	0	EID2	1	8
<i>Archips fumiferana</i>	Insecta	Lepidoptera	bacteria/rickettsia, fungi	Cargo-carrier	1	5	2	EID2	1	26
<i>Hyphantria cunea</i>	Insecta	Lepidoptera	fungi	Cargo-carrier	0	1	0	EID2	3	170
<i>Lymantria dispar</i>	Insecta	Lepidoptera	bacteria/rickettsia	Cargo-carrier	1	8	5	EID2	1	80
<i>Manduca sexta</i>	Insecta	Lepidoptera	bacteria/rickettsia	Cargo-carrier	1	2	0	EID2	1	26
<i>Ostrinia nubilalis</i>	Insecta	Lepidoptera	fungi, bacteria/rickettsia	Cargo-carrier	1	5	8	EID2	2	90
<i>Pieris brassicae</i>	Insecta	Lepidoptera	bacteria/rickettsia	Cargo-carrier	0	1	1	EID2	10	314
<i>Pieris rapae</i>	Insecta	Lepidoptera	fungi	Cargo-carrier	0	2	1	EID2	14	371
<i>Plutella xylostella</i>	Insecta	Lepidoptera	bacteria/rickettsia	Cargo-carrier	1	4	4	EID2	1	26
<i>Spodoptera frugiperda</i>	Insecta	Lepidoptera	bacteria/rickettsia	Cargo-carrier	0	1	1	EID2	1	80
<i>Atilax paludinosus</i>	Mammalia	Camivora	virus	Detection/reservoir	1	1	0	EID2, GMPD2, Olivial	3	180
<i>Canis lupus</i>	Mammalia	Camivora	fungi, bacteria/rickettsia, helminth, virus, protozoa, others	Detection/reservoir	1	262	15	EID2, GMPD2, Olivial, Plourde	2	252

<i>Canis mesomelas</i>	Mammalia	Carnivora	virus, bacteria/rickettsia	Detection/reservoir	1	4	3	EID2, GMPD2, Olival	1	84
<i>Cerdocyon thous</i>	Mammalia	Carnivora	virus, helminth, protozoa	Detection/reservoir	1	8	3	EID2, GMPD2, Olival	2	45
<i>Conepatus chinga</i>	Mammalia	Carnivora	helminth, protozoa	Detection/reservoir	1	2	0	GMPD2	1	138
<i>Crocota crocuta</i>	Mammalia	Carnivora	virus, bacteria/rickettsia, helminth	Detection/reservoir	1	6	2	EID2, GMPD2, Olival	1	86
<i>Leopardus geoffroyi</i>	Mammalia	Carnivora	helminth, virus, protozoa	Detection/reservoir	1	5	5	GMPD2, Olival, Plourde	1	138
<i>Leopardus pardalis</i>	Mammalia	Carnivora	helminth, virus, bacteria/rickettsia, protozoa	Detection/reservoir	1	13	8	EID2, GMPD2, Olival, Plourde	3	40
<i>Lutra lutra</i>	Mammalia	Carnivora	bacteria/rickettsia, virus, helminth, protozoa	Detection/reservoir	1	27	20	EID2, GMPD2, Olival	1	9
<i>Lycalopex culpaeus</i>	Mammalia	Carnivora	helminth	Detection/reservoir	1	5	2	GMPD2	1	138
<i>Martes foina</i>	Mammalia	Carnivora	protozoa, virus, helminth, bacteria/rickettsia	Detection/reservoir	1	12	10	EID2, GMPD2, Olival	1	46
<i>Mellivora capensis</i>	Mammalia	Carnivora	virus	Detection/reservoir	1	1	0	Olival	1	86
<i>Nasua narica</i>	Mammalia	Carnivora	bacteria/rickettsia, virus	Detection/reservoir	1	2	1	GMPD2, Olival	1	28
<i>Nasua nasua</i>	Mammalia	Carnivora	helminth, protozoa	Detection/reservoir	1	2	1	EID2, GMPD2, Plourde	3	49
<i>Panthera onca</i>	Mammalia	Carnivora	virus, helminth, bacteria/rickettsia, protozoa	Detection/reservoir	1	5	0	EID2, GMPD2, Plourde	2	35
<i>Panthera pardus</i>	Mammalia	Carnivora	virus, protozoa, helminth	Detection/reservoir	1	6	0	EID2, GMPD2, Olival	5	125
<i>Potos flavus</i>	Mammalia	Carnivora	virus	Serological	1	3	0	EID2, Olival	1	40
<i>Procyon lotor</i>	Mammalia	Carnivora	virus, bacteria/rickettsia, helminth, protozoa, fungi	Detection/reservoir	1	64	86	EID2, GMPD2, Olival, Plourde	1	28
<i>Puma concolor</i>	Mammalia	Carnivora	helminth, virus, bacteria/rickettsia, protozoa	Detection/reservoir	1	25	12	EID2, GMPD2, Olival, Plourde	3	171
<i>Puma yagouaroundi</i>	Mammalia	Carnivora	helminth, bacteria/rickettsia	Detection/reservoir	1	2	0	EID2, Plourde	1	28
<i>Speothos venaticus</i>	Mammalia	Carnivora	helminth	Detection/reservoir	1	1	0	Plourde	1	7
<i>Urocyon cinereoargenteus</i>	Mammalia	Carnivora	helminth, bacteria/rickettsia, virus, protozoa	Detection/reservoir	1	30	9	EID2, GMPD2, Olival	1	28
<i>Ursus arctos</i>	Mammalia	Carnivora	bacteria/rickettsia, virus, helminth, protozoa	Detection/reservoir	1	15	8	EID2, GMPD2, Olival, Plourde	1	46
<i>Vulpes vulpes</i>	Mammalia	Carnivora	bacteria/rickettsia, helminth, virus, protozoa, others	Detection/reservoir	1	65	38	EID2, GMPD2, Olival, Plourde	1	46
<i>Axis axis</i>	Mammalia	Cetartiodactyla	virus, helminth	Detection/reservoir	1	4	3	GMPD2, Olival	1	9
<i>Capra ibex</i>	Mammalia	Cetartiodactyla	bacteria/rickettsia, protozoa, helminth	Detection/reservoir	1	16	4	EID2, GMPD2, Olival	1	46
<i>Cephalophus callipygus</i>	Mammalia	Cetartiodactyla	virus	Detection/reservoir	1	1	0	Olival	1	86
<i>Cephalophus dorsalis</i>	Mammalia	Cetartiodactyla	virus, protozoa	Detection/reservoir	1	2	0	GMPD2, Olival	3	160
<i>Connochaetes taurinus</i>	Mammalia	Cetartiodactyla	bacteria/rickettsia, virus, helminth, protozoa	Detection/reservoir	1	11	7	EID2, GMPD2, Olival	1	84
<i>Muntiacus muntjak</i>	Mammalia	Cetartiodactyla	virus	Serological	1	1	1	GMPD2, Olival	1	9

<i>Odocoileus virginianus</i>	Mammalia	Cetartiodactyla	bacteria/rickettsia, protozoa, virus, helminth	Detection/reservoir	1	33	22	EID2, GMPD2, Olival, Plourde	2	32
<i>Ovis ammon</i>	Mammalia	Cetartiodactyla	helminth, virus, protozoa	Detection/reservoir	1	3	0	GMPD2	1	46
<i>Pecari tajacu</i>	Mammalia	Cetartiodactyla	virus, protozoa	Serological	0	3	1	EID2, GMPD2	7	119
<i>Philantomba monticola</i>	Mammalia	Cetartiodactyla	virus, helminth, protozoa	Detection/reservoir	1	4	3	EID2, GMPD2, Olival	3	175
<i>Rusa unicolor</i>	Mammalia	Cetartiodactyla	virus, bacteria/rickettsia, helminth	Detection/reservoir	1	5	4	EID2, GMPD2, Olival	2	221
<i>Sylvicapra grimmia</i>	Mammalia	Cetartiodactyla	virus, helminth	Serological	1	10	9	EID2, GMPD2, Olival	1	84
<i>Syncerus caffer</i>	Mammalia	Cetartiodactyla	bacteria/rickettsia, virus, helminth, protozoa	Detection/reservoir	1	14	7	EID2, GMPD2, Olival	3	180
<i>Taurotragus oryx</i>	Mammalia	Cetartiodactyla	bacteria/rickettsia, virus, helminth, protozoa	Serological	1	8	5	GMPD2	1	84
<i>Tragelaphus scriptus</i>	Mammalia	Cetartiodactyla	bacteria/rickettsia, virus, protozoa, helminth	Serological	1	4	7	GMPD2, Olival	2	94
<i>Tragelaphus spekii</i>	Mammalia	Cetartiodactyla	virus, protozoa	Detection/reservoir	1	2	0	EID2, GMPD2	1	86
<i>Anoura geoffroyi</i>	Mammalia	Chiroptera	virus	Serological	1	6	2	Olival	2	10
<i>Artibeus cinereus</i>	Mammalia	Chiroptera	virus	Serological	1	4	0	Olival	1	3
<i>Artibeus jamaicensis</i>	Mammalia	Chiroptera	virus	Detection/reservoir	1	13	1	EID2, Olival	4	74
<i>Artibeus lituratus</i>	Mammalia	Chiroptera	virus	Detection/reservoir	1	16	2	EID2, Olival	6	92
<i>Artibeus phaeotis</i>	Mammalia	Chiroptera	virus	Detection/reservoir	1	6	0	Olival	3	28
<i>Artibeus planirostris</i>	Mammalia	Chiroptera	virus, protozoa	Detection/reservoir	1	3	0	EID2, Olival	2	18
<i>Artibeus toltecus</i>	Mammalia	Chiroptera	virus	Detection/reservoir	1	2	0	Olival	2	20
<i>Carollia brevicauda</i>	Mammalia	Chiroptera	virus, bacteria/rickettsia	Detection/reservoir	1	4	0	EID2, Olival	5	84
<i>Carollia perspicillata</i>	Mammalia	Chiroptera	virus, protozoa	Detection/reservoir	1	13	3	EID2, Olival	5	84
<i>Chrolopterus auritus</i>	Mammalia	Chiroptera	virus, protozoa	Detection/reservoir	1	2	0	EID2, Olival	5	82
<i>Cynomops planirostris</i>	Mammalia	Chiroptera	virus	Serological	1	1	0	Olival	1	1
<i>Cynopterus brachyotis</i>	Mammalia	Chiroptera	virus	Detection/reservoir	1	4	4	Olival	3	25
<i>Cynopterus sphinx</i>	Mammalia	Chiroptera	virus	Detection/reservoir	1	4	0	Olival	1	2
<i>Desmodus rotundus</i>	Mammalia	Chiroptera	fungi, virus, bacteria/rickettsia	Detection/reservoir	1	10	2	EID2, Olival	6	90
<i>Diclidurus albus</i>	Mammalia	Chiroptera	virus	Detection/reservoir	1	1	0	Olival	1	46
<i>Diphylla ecaudata</i>	Mammalia	Chiroptera	virus	Detection/reservoir	1	1	0	EID2, Olival	1	8
<i>Eonycteris spelaea</i>	Mammalia	Chiroptera	virus	Detection/reservoir	1	3	2	Olival	2	19
<i>Eptesicus brasiliensis</i>	Mammalia	Chiroptera	virus	Detection/reservoir	1	1	1	EID2, Olival	1	15
<i>Eptesicus furinalis</i>	Mammalia	Chiroptera	virus	Detection/reservoir	1	1	0	EID2, Olival	1	8
<i>Eumops auripendulus</i>	Mammalia	Chiroptera	virus	Detection/reservoir	1	1	0	EID2, Olival	1	46
<i>Glossophaga commissarisi</i>	Mammalia	Chiroptera	virus	Serological	1	1	0	Olival	1	8
<i>Glossophaga soricina</i>	Mammalia	Chiroptera	virus, bacteria/rickettsia	Detection/reservoir	1	10	0	EID2, Olival	6	92
<i>Hipposideros armiger</i>	Mammalia	Chiroptera	virus	Detection/reservoir	1	2	0	Olival	1	2
<i>Hipposideros bicolor</i>	Mammalia	Chiroptera	virus	Serological	1	1	0	Olival	1	6
<i>Lasiurus ega</i>	Mammalia	Chiroptera	virus	Detection/reservoir	1	1	0	EID2, Olival, Plourde	1	8

<i>Lophostoma silvicolom</i>	Mammalia	Chiroptera	virus	Serological	1	2	0	Olival	3	62
<i>Megaderma lyra</i>	Mammalia	Chiroptera	virus	Serological	1	1	0	Olival	1	2
<i>Micronycteris megalotis</i>	Mammalia	Chiroptera	virus	Serological	1	1	0	Olival	3	59
<i>Miniopterus schreibersii</i>	Mammalia	Chiroptera	virus	Detection/ reservoir	1	7	3	EID2, Olival	2	119
<i>Molossus molossus</i>	Mammalia	Chiroptera	fungi, virus	Detection/ reservoir	1	8	1	EID2, Olival	2	61
<i>Molossus rufus</i>	Mammalia	Chiroptera	virus	Detection/ reservoir	1	6	2	EID2, Olival	1	8
<i>Mormoops megalophylla</i>	Mammalia	Chiroptera	virus	Serological	1	2	1	Olival	1	12
<i>Myotis californicus</i>	Mammalia	Chiroptera	virus	Detection/ reservoir	1	1	0	EID2, Olival	1	12
<i>Myotis macrodactylus</i>	Mammalia	Chiroptera	virus	Serological	1	1	0	Olival	1	20
<i>Myotis nattereri</i>	Mammalia	Chiroptera	virus	Detection/ reservoir	1	2	1	EID2, Olival	1	20
<i>Myotis nigricans</i>	Mammalia	Chiroptera	virus, protozoa	Detection/ reservoir	1	4	1	EID2, Olival	1	15
<i>Myotis riparius</i>	Mammalia	Chiroptera	virus	Detection/ reservoir	1	1	0	EID2, Olival	2	17
<i>Natalus stramineus</i>	Mammalia	Chiroptera	virus	Detection/ reservoir	1	1	0	Olival	2	20
<i>Philetor brachypterus</i>	Mammalia	Chiroptera	virus	Serological	1	1	0	Olival	2	23
<i>Phyllostomus discolor</i>	Mammalia	Chiroptera	virus, protozoa	Serological	1	3	1	EID2, Olival	4	76
<i>Phyllostomus hastatus</i>	Mammalia	Chiroptera	virus, bacteria/rickettsia, protozoa	Detection/ reservoir	1	12	2	EID2, Olival	3	64
<i>Platyrrhinus helleri</i>	Mammalia	Chiroptera	virus	Serological	1	4	0	Olival	4	76
<i>Pteronotus davyi</i>	Mammalia	Chiroptera	fungi, virus	Detection/ reservoir	1	7	1	EID2, Olival	2	20
<i>Pteronotus parnellii</i>	Mammalia	Chiroptera	virus	Serological	1	6	3	EID2, Olival	4	69
<i>Pteropus alecto</i>	Mammalia	Chiroptera	virus	Detection/ reservoir	1	9	0	EID2, Olival, Plourde	1	168
<i>Pteropus scapulatus</i>	Mammalia	Chiroptera	virus	Detection/ reservoir	1	7	0	EID2, Olival, Plourde	1	168
<i>Rousettus amplexicaudatus</i>	Mammalia	Chiroptera	virus	Serological	1	2	0	Olival	3	25
<i>Saccolaimus flaviventris</i>	Mammalia	Chiroptera	virus	Detection/ reservoir	1	1	0	EID2, Olival, Plourde	2	281
<i>Scotophilus kuhlii</i>	Mammalia	Chiroptera	virus	Detection/ reservoir	1	5	1	EID2, Olival	1	2
<i>Sturnira lilium</i>	Mammalia	Chiroptera	bacteria/rickettsia, virus	Serological	1	12	3	EID2, Olival	6	92
<i>Sturnira ludovici</i>	Mammalia	Chiroptera	virus	Serological	1	1	0	Olival	1	8
<i>Sturnira tildae</i>	Mammalia	Chiroptera	bacteria/rickettsia, virus	Serological	1	2	0	EID2, Olival	3	64
<i>Tonatia bidens</i>	Mammalia	Chiroptera	virus, protozoa	Serological	1	2	0	EID2, Olival	1	46
<i>Uroderma bilobatum</i>	Mammalia	Chiroptera	virus, bacteria/rickettsia	Detection/ reservoir	1	6	2	EID2, Olival	4	76
<i>Vampyroides caraccioli</i>	Mammalia	Chiroptera	virus	Serological	1	2	0	Olival	1	1
<i>Vespertilio sinensis</i>	Mammalia	Chiroptera	virus	Detection/ reservoir	1	1	0	Olival	1	20
<i>Cabassous centralis</i>	Mammalia	Cingulata	virus	Serological	1	1	0	Olival	1	28
<i>Dasybus novemcinctus</i>	Mammalia	Cingulata	virus, protozoa, bacteria/rickettsia, fungi	Detection/ reservoir	1	8	1	EID2, Olival, Plourde	4	103
<i>Didelphis albiventris</i>	Mammalia	Didelphimorphia	bacteria/rickettsia, protozoa	Detection/ reservoir	1	4	1	EID2, Plourde	4	56
<i>Philander opossum</i>	Mammalia	Didelphimorphia	bacteria/rickettsia, virus, protozoa	Serological	1	7	2	EID2, Olival	2	31
<i>Macropus agilis</i>	Mammalia	Diprotodontia	virus	Detection/ reservoir	1	3	7	EID2, Olival, Plourde	1	168
<i>Macropus giganteus</i>	Mammalia	Diprotodontia	protozoa, virus	Detection/ reservoir	1	5	10	EID2, Olival	3	64
<i>Macropus robustus</i>	Mammalia	Diprotodontia	virus	Serological	1	1	6	EID2, Olival	1	29

<i>Trichosurus vulpecula</i>	Mammalia	Diprotodontia	virus	Detection/ reservoir	1	2	1	EID2, Olival, Plourde	4	236
<i>Procavia capensis</i>	Mammalia	Hyracoidea	protozoa	Detection/ reservoir	1	3	0	EID2, Plourde	1	84
<i>Lepus americanus</i>	Mammalia	Lagomorpha	virus	Detection/ reservoir	1	4	0	EID2, Olival, Plourde	1	100
<i>Lepus europaeus</i>	Mammalia	Lagomorpha	bacteria/rickettsia, virus	Detection/ reservoir	1	4	3	EID2, Olival, Plourde	1	138
<i>Lepus saxatilis</i>	Mammalia	Lagomorpha	virus	Serological	1	1	0	Olival	1	84
<i>Sylvilagus brasiliensis</i>	Mammalia	Lagomorpha	virus	Serological	1	2	0	Olival	4	57
<i>Ceratotherium simum</i>	Mammalia	Perissodactyla	virus, bacteria/rickettsia, protozoa	Serological	1	5	8	EID2, GMPD2, Olival	1	84
<i>Equus quagga</i>	Mammalia	Perissodactyla	bacteria/rickettsia, virus, helminth	Detection/ reservoir	1	8	12	EID2, GMPD2	1	84
<i>Myrmecophaga tridactyla</i>	Mammalia	Pilosa	virus	Serological	0	2	0	EID2, Olival	2	12
<i>Tamandua tetradactyla</i>	Mammalia	Pilosa	protozoa, virus	Detection/ reservoir	1	6	0	EID2, Olival, Plourde	2	47
<i>Allochrocebus solatus</i>	Mammalia	Primates	virus	Serological	0	1	1	EID2, Olival	1	86
<i>Alouatta belzebul</i>	Mammalia	Primates	virus	Serological	1	2	5	GMPD2	1	2
<i>Ateles chamek</i>	Mammalia	Primates	protozoa, helminth	Detection/ reservoir	1	2	3	GMPD2	1	7
<i>Ateles paniscus</i>	Mammalia	Primates	protozoa, virus, bacteria/rickettsia	Detection/ reservoir	1	6	7	GMPD2, Olival	3	49
<i>Cebus albifrons</i>	Mammalia	Primates	bacteria/rickettsia, protozoa	Serological	1	3	8	EID2, GMPD2	1	7
<i>Cercopithecus mitis</i>	Mammalia	Primates	protozoa, helminth, virus	Detection/ reservoir	1	15	6	EID2, GMPD2, Olival	2	49
<i>Cercopithecus mona</i>	Mammalia	Primates	helminth, virus	Detection/ reservoir	1	9	2	EID2, GMPD2, Olival	1	10
<i>Cercopithecus petaurista</i>	Mammalia	Primates	virus	Serological	1	1	1	GMPD2, Olival	1	10
<i>Chiropotes satanas</i>	Mammalia	Primates	protozoa	Detection/ reservoir	1	1	4	GMPD2	1	2
<i>Chlorocebus aethiops</i>	Mammalia	Primates	virus, helminth, protozoa	Detection/ reservoir	1	23	15	EID2, GMPD2, Olival	1	84
<i>Colobus polykomos</i>	Mammalia	Primates	helminth, bacteria/rickettsia, virus	Detection/ reservoir	1	4	2	GMPD2, Olival	1	10
<i>Gorilla gorilla</i>	Mammalia	Primates	bacteria/rickettsia, protozoa, helminth, virus	Detection/ reservoir	1	35	26	EID2, GMPD2, Olival	1	86
<i>Leontocebus fuscicollis</i>	Mammalia	Primates	fungi, helminth, protozoa	Detection/ reservoir	1	4	13	EID2, GMPD2	1	7
<i>Leontopithecus chrysomelas</i>	Mammalia	Primates	virus, protozoa	Serological	1	3	0	GMPD2, Olival	1	40
<i>Macaca fascicularis</i>	Mammalia	Primates	helminth, bacteria/rickettsia, virus, protozoa, fungi	Detection/ reservoir	1	32	22	EID2, GMPD2, Olival, Plourde	1	212
<i>Macaca nemestrina</i>	Mammalia	Primates	virus, bacteria/rickettsia, protozoa, fungi	Detection/ reservoir	1	9	11	EID2, GMPD2, Olival, Plourde	1	212
<i>Macaca radiata</i>	Mammalia	Primates	virus	Detection/ reservoir	1	7	6	EID2, GMPD2, Olival	1	9
<i>Macaca silenus</i>	Mammalia	Primates	virus	Serological	0	1	0	EID2, GMPD2, Olival	1	9
<i>Mandrillus sphinx</i>	Mammalia	Primates	protozoa, helminth, virus, bacteria/rickettsia	Detection/ reservoir	1	17	11	EID2, GMPD2, Olival	1	86
<i>Pan troglodytes</i>	Mammalia	Primates	helminth, bacteria/rickettsia, protozoa, virus	Detection/ reservoir	1	72	25	EID2, GMPD2, Olival, Plourde	2	96
<i>Pithecia pithecia</i>	Mammalia	Primates	protozoa, virus, fungi	Serological	1	6	3	EID2, GMPD2, Olival	1	35

<i>Pongo pygmaeus</i>	Mammalia	Primates	protozoa, virus, helminth	Detection/reservoir	1	25	5	EID2, GMPD2, Olival	3	74
<i>Saguinus midas</i>	Mammalia	Primates	virus, protozoa, fungi	Detection/reservoir	1	5	9	EID2, GMPD2, Olival	1	35
<i>Saimiri boliviensis</i>	Mammalia	Primates	protozoa	Detection/reservoir	1	3	9	EID2, GMPD2	1	7
<i>Saimiri sciureus</i>	Mammalia	Primates	protozoa, virus, fungi	Detection/reservoir	1	11	29	EID2, GMPD2, Olival	1	35
<i>Sapajus apella</i>	Mammalia	Primates	protozoa, virus	Detection/reservoir	1	14	9	EID2, GMPD2, Olival	5	86
<i>Varecia variegata</i>	Mammalia	Primates	virus, protozoa	Serological	1	3	1	EID2, GMPD2, Olival	1	6
<i>Elephas maximus</i>	Mammalia	Proboscidea	bacteria/rickettsia, virus, fungi	Detection/reservoir	1	4	3	EID2, Olival	1	9
<i>Loxodonta africana</i>	Mammalia	Proboscidea	virus	Detection/reservoir	1	4	1	EID2, Olival	1	10
<i>Abrothrix longipilis</i>	Mammalia	Rodentia	virus	Detection/reservoir	1	1	0	EID2, Olival	1	32
<i>Abrothrix olivaceus</i>	Mammalia	Rodentia	virus	Serological	1	1	0	Olival	2	44
<i>Akodon montensis</i>	Mammalia	Rodentia	virus, helminth, protozoa	Detection/reservoir	1	5	1	EID2, Olival, Han	1	16
<i>Apodemus agrarius</i>	Mammalia	Rodentia	bacteria/rickettsia, protozoa, virus, helminth	Detection/reservoir	1	24	7	EID2, Olival, Han, Plourde	1	14
<i>Atherurus africanus</i>	Mammalia	Rodentia	protozoa	Detection/reservoir	1	1	2	EID2, Han	2	96
<i>Calomys callidus</i>	Mammalia	Rodentia	virus	Detection/reservoir	1	1	0	Han	1	5
<i>Calomys tener</i>	Mammalia	Rodentia	virus	Detection/reservoir	1	2	0	Olival, Han	2	46
<i>Cricetomys gambianus</i>	Mammalia	Rodentia	bacteria/rickettsia, virus, protozoa	Detection/reservoir	1	5	2	Olival, Han	1	107
<i>Cuniculus paca</i>	Mammalia	Rodentia	helminth, protozoa, virus	Detection/reservoir	1	5	0	Olival, Plourde	3	70
<i>Dasyprocta leporina</i>	Mammalia	Rodentia	virus, helminth, protozoa	Detection/reservoir	1	7	0	EID2, Olival, Han, Plourde	4	51
<i>Dasyprocta punctata</i>	Mammalia	Rodentia	helminth, virus	Detection/reservoir	1	4	1	EID2, Olival, Plourde	1	28
<i>Desmodillus auricularis</i>	Mammalia	Rodentia	virus	Detection/reservoir	1	1	0	EID2, Olival	2	22
<i>Eothenomys melanogaster</i>	Mammalia	Rodentia	bacteria/rickettsia	Detection/reservoir	1	1	0	Han	1	14
<i>Funambulus tristriatus</i>	Mammalia	Rodentia	virus	Serological	1	1	0	Olival	1	9
<i>Gerbilliscus kempii</i>	Mammalia	Rodentia	virus	Detection/reservoir	1	1	4	Olival	1	107
<i>Gerbilliscus leucogaster</i>	Mammalia	Rodentia	virus	Serological	1	1	0	Olival	1	2
<i>Hydrochoerus hydrochaeris</i>	Mammalia	Rodentia	helminth, virus	Detection/reservoir	1	2	1	EID2, Olival, Plourde	1	5
<i>Hydromys chrysogaster</i>	Mammalia	Rodentia	virus	Detection/reservoir	1	2	0	Olival	1	168
<i>Hylaeomys megacephalus</i>	Mammalia	Rodentia	virus, protozoa	Detection/reservoir	1	9	2	EID2, Olival, Han	1	5
<i>Hystrix africaeaustralis</i>	Mammalia	Rodentia	virus	Serological	1	1	0	Olival	1	84
<i>Lemniscomys striatus</i>	Mammalia	Rodentia	virus	Detection/reservoir	1	3	2	EID2, Olival	1	107
<i>Leopoldamys edwardsi</i>	Mammalia	Rodentia	bacteria/rickettsia	Detection/reservoir	1	1	0	Han	1	14
<i>Loxodontomys micropus</i>	Mammalia	Rodentia	virus	Detection/reservoir	1	1	0	EID2, Olival, Han	1	32
<i>Mastomys erythroleucus</i>	Mammalia	Rodentia	virus, protozoa	Detection/reservoir	1	4	1	Olival, Han	1	107
<i>Mastomys natalensis</i>	Mammalia	Rodentia	virus, bacteria/rickettsia, protozoa	Detection/reservoir	1	9	5	EID2, Olival, Han, Plourde	1	107

<i>Micaelamys namaquensis</i>	Mammalia	Rodentia	virus	Serological	1	2	0	Olival	2	22
<i>Microtus pennsylvanicus</i>	Mammalia	Rodentia	protozoa, virus, helminth	Detection/reservoir	1	7	5	EID2, Olival, Han, Plourde	1	15
<i>Myodes gapperi</i>	Mammalia	Rodentia	bacteria/rickettsia, virus	Detection/reservoir	1	3	1	EID2, Olival	1	100
<i>Myodes rutilus</i>	Mammalia	Rodentia	bacteria/rickettsia, protozoa, virus, helminth	Detection/reservoir	1	13	3	EID2, Olival, Plourde	1	15
<i>Neacomys spinosus</i>	Mammalia	Rodentia	virus	Detection/reservoir	1	2	1	Olival, Han	1	3
<i>Necomys lasiurus</i>	Mammalia	Rodentia	virus, protozoa, bacteria/rickettsia	Detection/reservoir	1	5	0	EID2, Olival, Han, Plourde	3	51
<i>Niviventer confucianus</i>	Mammalia	Rodentia	bacteria/rickettsia, protozoa, virus	Detection/reservoir	1	5	0	EID2, Olival, Han	1	14
<i>Octodon degus</i>	Mammalia	Rodentia	protozoa	Detection/reservoir	1	2	0	EID2, Han	1	12
<i>Oecomys bicolor</i>	Mammalia	Rodentia	virus	Serological	0	1	1	EID2, Olival	2	8
<i>Oligoryzomys chacoensis</i>	Mammalia	Rodentia	virus, protozoa	Detection/reservoir	1	3	0	EID2, Olival, Han	1	5
<i>Oligoryzomys flavescens</i>	Mammalia	Rodentia	virus	Detection/reservoir	1	5	0	EID2, Olival, Han, Plourde	1	30
<i>Oligoryzomys fornesi</i>	Mammalia	Rodentia	virus	Detection/reservoir	1	4	0	EID2, Olival, Han	1	5
<i>Oligoryzomys longicaudatus</i>	Mammalia	Rodentia	virus	Detection/reservoir	1	3	0	EID2, Olival, Han, Plourde	2	44
<i>Oligoryzomys nigripes</i>	Mammalia	Rodentia	virus	Detection/reservoir	1	5	0	EID2, Olival, Han, Plourde	2	46
<i>Peromyscus maniculatus</i>	Mammalia	Rodentia	bacteria/rickettsia, virus, protozoa	Detection/reservoir	1	13	2	EID2, Olival, Han, Plourde	1	15
<i>Phyllotis darwini</i>	Mammalia	Rodentia	virus, protozoa	Detection/reservoir	1	2	0	Olival, Han	1	12
<i>Rattus exulans</i>	Mammalia	Rodentia	helminth, virus, bacteria/rickettsia	Detection/reservoir	1	8	0	Olival, Han	1	6
<i>Rattus tanezumi</i>	Mammalia	Rodentia	helminth, bacteria/rickettsia, protozoa, virus	Detection/reservoir	1	4	0	EID2, Olival, Han	1	14
<i>Rattus tiomanicus</i>	Mammalia	Rodentia	helminth, bacteria/rickettsia	Detection/reservoir	1	3	1	EID2, Olival, Han	1	6
<i>Rhabdomys pumilio</i>	Mammalia	Rodentia	virus, helminth	Detection/reservoir	1	2	0	Olival, Han	2	22
<i>Rhipidomys leucodactylus</i>	Mammalia	Rodentia	protozoa	Detection/reservoir	1	1	0	Han	1	3
<i>Thryonomys swinderianus</i>	Mammalia	Rodentia	virus	Detection/reservoir	1	1	0	Olival	1	10
<i>Xerus erythropus</i>	Mammalia	Rodentia	virus	Detection/reservoir	1	1	1	Olival	1	107
<i>Iguana iguana</i>	Reptilia	Squamata	bacteria/rickettsia, protozoa	Cargo-carrier	1	3	4	EID2	1	162

Supplementary Table 2: Summary of PREDICTS studies included in community analyses (full dataset). The number of studies, sites, total sampled species diversity and geographical regions are listed for each original and aggregated land use class. This dataset contains 658,806 records from 8448 sites within 195 studies (see Methods). Sites with a land use intensity classification of ‘cannot decide’ (n=1647 sites) were excluded prior to community modelling, resulting in a final dataset of 6801 sites included in full community models.

Land use type (original)	Use intensity (original)	Land use type (aggregated)	Use intensity (aggregated)	Num studies	Num sites	Num unique species	Geographical regions	Taxonomic range
Primary vegetation	Minimal	Primary	Minimal	109	1423	4605	Asia, Americas, Oceania, Africa, Europe	Aves, Insecta, Mammalia, Reptilia, Amphibia, Arachnida, Chilopoda, Diplopoda
Primary vegetation	Light	Primary	Substantial	59	1050	2357	Americas, Asia, Africa, Oceania, Europe	Insecta, Aves, Mammalia, Reptilia, Amphibia, Malacostraca
Primary vegetation	Intense	Primary	Substantial	23	407	1236	Asia, Africa, Oceania, Americas, Europe	Aves, Reptilia, Amphibia, Mammalia, Insecta
Primary vegetation	Cannot decide	Primary	Cannot decide	7	111	529	Asia, Americas, Africa	Aves, Mammalia
Young secondary vegetation	Minimal	Secondary	Minimal	29	272	2039	Europe, Americas, Oceania, Asia, Africa	Insecta, Arachnida, Aves, Mammalia, Reptilia, Amphibia
Young secondary vegetation	Light	Secondary	Substantial	11	62	1070	Europe, Africa, Americas, Asia	Insecta, Aves, Mammalia
Young secondary vegetation	Intense	Secondary	Substantial	10	214	908	Europe, Africa, Oceania, Americas, Asia	Insecta, Mammalia, Aves, Reptilia, Amphibia
Young secondary vegetation	Cannot decide	Secondary	Cannot decide	9	99	379	Asia, Europe, Americas, Africa	Aves, Insecta, Mammalia

Intermediate secondary vegetation	Minimal	Secondary	Minimal	34	238	1995	Europe, Asia, Americas, Oceania, Africa	Arachnida, Aves, Mammalia, Reptilia, Insecta
Intermediate secondary vegetation	Light	Secondary	Substantial	13	109	1103	Americas, Africa, Europe, Asia	Aves, Mammalia, Insecta
Intermediate secondary vegetation	Intense	Secondary	Substantial	5	23	316	Oceania, Americas, Asia	Aves, Reptilia, Amphibia, Mammalia
Intermediate secondary vegetation	Cannot decide	Secondary	Cannot decide	5	63	218	Asia, Europe, Americas, Oceania	Aves, Mammalia
Mature secondary vegetation	Minimal	Secondary	Minimal	21	143	1406	Europe, Oceania, Asia, Africa, Americas	Gastropoda, Insecta, Arachnida, Mammalia, Aves
Mature secondary vegetation	Light	Secondary	Substantial	7	154	527	Americas, Asia	Aves, Mammalia, Insecta
Mature secondary vegetation	Intense	Secondary	Substantial	2	6	4	Asia	Mammalia
Mature secondary vegetation	Cannot decide	Secondary	Cannot decide	3	57	140	Asia, Africa	Aves, Mammalia
Secondary vegetation (indeterminate age)	Minimal	Secondary	Minimal	16	391	1123	Oceania, Europe, Africa, Asia, Americas	Insecta, Aves, Amphibia, Mammalia, Reptilia, Arachnida, Chilopoda, Diplopoda
Secondary vegetation (indeterminate age)	Light	Secondary	Substantial	8	40	289	Oceania, Asia, Americas, Africa	Insecta, Aves, Mammalia, Amphibia
Secondary vegetation (indeterminate age)	Intense	Secondary	Substantial	2	21	14	Americas, Africa	Mammalia
Secondary vegetation (indeterminate age)	Cannot decide	Secondary	Cannot decide	10	118	375	Asia, Africa, Europe, Americas	Insecta, Aves, Mammalia
Plantation forest	Minimal	Managed	Minimal	19	181	1332	Americas, Europe, Africa, Asia	Aves, Mammalia, Insecta, Arachnida
Plantation forest	Light	Managed	Substantial	22	584	1017	Asia, Americas, Africa, Europe, Oceania	Aves, Mammalia, Insecta

Plantation forest	Intense	Managed	Substantial	13	162	694	Americas, Asia, Africa, Oceania, Europe	Mammalia, Aves, Insecta
Plantation forest	Cannot decide	Managed	Cannot decide	9	52	506	Asia, Europe, Americas	Insecta, Aves, Mammalia
Pasture	Minimal	Managed	Minimal	16	182	1486	Europe, Africa, Americas, Oceania	Insecta, Mammalia, Aves, Amphibia, Arachnida, Chilopoda, Diplopoda
Pasture	Light	Managed	Substantial	24	268	1298	Europe, Oceania, Americas, Africa	Insecta, Aves, Mammalia, Reptilia, Amphibia, Arachnida, Chilopoda, Diplopoda
Pasture	Intense	Managed	Substantial	7	35	149	Europe, Oceania, Asia, Americas	Insecta, Aves, Mammalia
Pasture	Cannot decide	Managed	Cannot decide	14	594	640	Asia, Americas, Europe, Oceania, Africa	Aves, Insecta, Mammalia
Cropland	Minimal	Managed	Minimal	18	202	1061	Asia, Africa, Oceania, Europe, Americas	Aves, Insecta, Mammalia, Arachnida
Cropland	Light	Managed	Substantial	7	56	779	Africa, Oceania, Asia, Europe, Americas	Aves, Reptilia, Amphibia, Mammalia, Arachnida
Cropland	Intense	Managed	Substantial	5	209	259	Africa, Europe, Asia	Aves, Arachnida, Mammalia
Cropland	Cannot decide	Managed	Cannot decide	9	537	497	Asia, Americas, Europe, Africa	Insecta, Aves, Mammalia
Urban	Minimal	Urban	Minimal	10	136	922	Europe, Americas, Oceania, Asia, Africa	Insecta, Aves, Gastropoda, Amphibia, Mammalia
Urban	Light	Urban	Substantial	10	177	439	Europe, Americas, Oceania, Asia	Insecta, Aves, Gastropoda, Amphibia, Mammalia

Urban	Intense	Urban	Substantial	8	56	470	Europe, Americas, Asia, Oceania	Insecta, Aves, Gastropoda, Mammalia
Urban	Cannot decide	Urban	Cannot decide	2	16	150	Europe, Americas	Gastropoda, Aves

Supplementary Table 3: Structure of Bayesian mixed-effects models of host richness and total abundance (full dataset). The table details the structure of the best models of the full dataset (main text, Figure 2). Best models were selected based on minimising Watanabe-Akaike Information Criterion (WAIC) while adhering to model assumptions. Fixed effects were composite land use_intensity (LUI; 8 level factor) and, for proportion host abundance log-transformed total site-level abundance ($\log(\text{TotalAbundance})$); effectively acting as an offset). For proportional host richness models, $\log(\text{TotalSR})$ was included as an offset. Random effects considered were for study (SS), spatial block nested within study (SSB), site (SSBS) and Biome. Species richness (count data) was modelled using a Poisson likelihood, and total abundance (continuous adjusted counts) was log-transformed and modelled using a Gaussian likelihood with a precision (inverse of variance) hyperprior (log-gamma; shape 0.5, scale 0.1). All fixed effects were assigned an uninformative Gaussian prior (mean 0, precision 0.01), and all random intercepts were modelled as iid Gaussian variables with a precision hyperprior (log-gamma with shape 0.1, scale 0.1). Fixed-effects estimates were robust to systematically varying priors and hyperpriors. Sites from studies that only sampled species occurrence were excluded from abundance models (n=708 sites). Following model selection, each model was bootstrapped with transitioning of non-hosts to host status, to account for variable research effort across species (Methods).

Model name	Response variable	Likelihood	Fixed effects	Random intercepts (iid)	Num sites
Host richness	HostSR	Poisson	LUI	SS, SSB	6801
Non-host richness	NonHostSR	Poisson	LUI	SS, SSB	6801
Proportion host richness	HostSR with $\log(\text{TotalSR})$ as offset	Poisson	LUI	SS, SSB	6801
Host total abundance	$\log(\text{HostAbundance}+1)$	Gaussian	LUI, LogHumanDensity	SS, SSB, SSBS	6093
Non-host total abundance	$\log(\text{NonHostAbundance}+1)$	Gaussian	LUI, LogHumanDensity	SS, SSB, SSBS, Biome	6093
Proportion host total abundance	$\log(\text{HostAbundance}+1)$	Gaussian	LUI, $\log(\text{TotalAbundance}+1)$, LogHumanDensity	SS, SSB, SSBS, Biome	6093

Supplementary Table 4: Structure of Bayesian mixed-effects models of mammal host richness and total abundance (mammal reservoirs subset). We conducted a separate model selection procedure for models of the mammal reservoirs subset, following the same methodology and with the same model structure specifications and priors as the full dataset models (Supp. Table 3). Sites from studies that only sampled species occurrence were excluded from abundance models (n=103 sites).

Model name	Response variable	Likelihood	Fixed effects	Random intercepts (iid)	Num sites
Host richness	HostSR	Poisson	LUI	SS, SSB	2026
Non-host richness	NonhostSR	Poisson	LUI	SS, SSB	2026
Proportion host richness	HostSR with log(TotalSR) included as offset	Poisson	LUI	SS, SSB	2026
Host abundance	log(HostAbundance+1)	Gaussian	LUI	SS, SSB, SSBS	1963
Non-host abundance	log(NonHostAbundance+1)	Gaussian	LUI	SS, SSB, SSBS	1963
Proportion host abundance	log(HostAbundance+1)	Gaussian	LUI, log(TotalAbundance+1)	SS, SSB, SSBS	1963

Supplementary Table 5: Fixed-effects posterior estimates from community models. Table shows posterior marginal fixed effects estimates for community models, calculated across 1000 bootstrap iterations per model (posterior median, 67% quantile range, and 95% quantile range). Results are shown for both the full dataset (shown in main text, Figure 2) and the mammal reservoirs dataset (Extended Data 4). All land use parameters (type_intensity) are for categorical covariates, with the intercept representing primary land under minimal use, and other parameters are continuous linear covariates (log human density, log total abundance). Estimates are on the linear predictor (log) scale, and therefore represent change in log-response relative to a primary land under minimal use baseline (categorical predictors) or change in the log-response caused by a unit change in the predictor (continuous predictors) while holding all other predictors constant. Fitted model intercepts represent averages across all studies with differing methodologies and taxonomic focus; these do not have a direct ecological interpretation.

Dataset	Response variable	Parameter	Posterior median	67% quantile range	95% quantile range
Full dataset	HostSR	Intercept	-0.092	-0.224, 0.036	-0.364, 0.164
		Primary_Substantial	0.111	0.064, 0.158	0.016, 0.207
		Secondary_Minimal	-0.133	-0.196, -0.071	-0.261, -0.006
		Secondary_Substantial	0.12	0.051, 0.189	-0.02, 0.261
		Managed_Minimal	0.038	-0.039, 0.115	-0.118, 0.193
		Managed_Substantial	0.024	-0.041, 0.089	-0.108, 0.156
		Urban_Minimal	0.325	0.232, 0.418	0.137, 0.516
		Urban_Substantial	0.366	0.252, 0.483	0.135, 0.607
	NonHostSR	Intercept	1.973	1.848, 2.097	1.717, 2.225
		Primary_Substantial	0.221	0.204, 0.239	0.186, 0.257
		Secondary_Minimal	-0.044	-0.061, -0.027	-0.078, -0.009
		Secondary_Substantial	-0.006	-0.027, 0.016	-0.048, 0.038
		Managed_Minimal	-0.049	-0.072, -0.027	-0.095, -0.006
		Managed_Substantial	-0.1	-0.117, -0.082	-0.135, -0.064
		Urban_Minimal	-0.202	-0.267, -0.152	-0.352, -0.101
		Urban_Substantial	-0.232	-0.295, -0.163	-0.356, -0.088
	PropHostSR	Intercept	-2.692	-2.829, -2.558	-2.975, -2.424
		Primary_Substantial	0.071	0.026, 0.116	-0.021, 0.163
		Secondary_Minimal	-0.019	-0.081, 0.043	-0.146, 0.106
		Secondary_Substantial	0.168	0.101, 0.235	0.032, 0.304
		Managed_Minimal	0.111	0.033, 0.187	-0.047, 0.265
		Managed_Substantial	0.187	0.123, 0.251	0.056, 0.317
		Urban_Minimal	0.483	0.393, 0.572	0.299, 0.662
		Urban_Substantial	0.542	0.426, 0.657	0.308, 0.776
	HostAbundance	Intercept	1.466	1.326, 1.608	1.182, 1.755
		Primary_Substantial	0.241	0.177, 0.305	0.108, 0.37
		Secondary_Minimal	0.062	-0.003, 0.125	-0.077, 0.193
		Secondary_Substantial	0.246	0.177, 0.313	0.102, 0.381
Managed_Minimal		0.239	0.154, 0.32	0.055, 0.408	
Managed_Substantial		0.17	0.097, 0.238	-0.01, 0.307	
Urban_Minimal		1.097	0.937, 1.239	0.737, 1.382	
Urban_Substantial		1.093	0.911, 1.268	0.717, 1.449	
LogHumanDensity		0.01	-0.003, 0.024	-0.018, 0.04	
NonHostAbundance	Intercept	3.504	3.299, 3.708	3.083, 3.92	

		Primary_Substantial	0.117	0.074, 0.159	0.03, 0.204
		Secondary_Minimal	-0.059	-0.104, -0.014	-0.149, 0.033
		Secondary_Substantial	-0.012	-0.062, 0.038	-0.113, 0.09
		Managed_Minimal	0.077	0.022, 0.138	-0.033, 0.215
		Managed_Substantial	-0.179	-0.221, -0.136	-0.264, -0.089
		Urban_Minimal	-0.629	-0.747, -0.5	-0.865, -0.304
		Urban_Substantial	-0.494	-0.639, -0.342	-0.785, -0.172
		LogHumanDensity	-0.003	-0.014, 0.008	-0.025, 0.019
	PropHostAbundance	Intercept	-0.702	-0.886, -0.525	-1.092, -0.337
		Primary_Substantial	0.141	0.079, 0.203	0.011, 0.266
		Secondary_Minimal	0.065	0.005, 0.123	-0.065, 0.186
		Secondary_Substantial	0.188	0.124, 0.248	0.045, 0.31
		Managed_Minimal	0.134	0.05, 0.21	-0.051, 0.293
		Managed_Substantial	0.229	0.157, 0.292	0.039, 0.356
		Urban_Minimal	0.893	0.74, 1.022	0.54, 1.149
		Urban_Substantial	0.859	0.688, 1.025	0.506, 1.195
		LogHumanDensity	0.012	0, 0.025	-0.014, 0.039
		logTotalAbund	0.548	0.525, 0.579	0.505, 0.627
Mammal reservoirs	HostSR	Intercept	0.055	-0.147, 0.248	-0.367, 0.442
		Primary_Substantial	-0.053	-0.133, 0.027	-0.214, 0.11
		Secondary_Minimal	-0.082	-0.207, 0.043	-0.337, 0.171
		Secondary_Substantial	0.12	0.023, 0.218	-0.076, 0.319
		Managed	-0.105	-0.18, -0.029	-0.257, 0.049
		Urban	0.436	0.127, 0.737	-0.189, 1.037
	NonHostSR	Intercept	0.848	0.618, 1.072	0.366, 1.301
		Primary_Substantial	-0.054	-0.1, -0.008	-0.148, 0.04
		Secondary_Minimal	-0.218	-0.276, -0.16	-0.336, -0.1
		Secondary_Substantial	-0.114	-0.181, -0.047	-0.25, 0.022
		Managed	-0.303	-0.362, -0.245	-0.422, -0.185
		Urban	-0.296	-0.491, -0.102	-0.702, 0.104
	PropHostSR	Intercept	-1.765	-1.946, -1.594	-2.145, -1.421
		Primary_Substantial	0.004	-0.07, 0.079	-0.147, 0.155
		Secondary_Minimal	-0.052	-0.176, 0.071	-0.304, 0.197
		Secondary_Substantial	0.124	0.03, 0.218	-0.068, 0.314
		Managed	0.039	-0.035, 0.113	-0.112, 0.19
		Urban	0.635	0.312, 0.948	-0.021, 1.259
	HostAbundance	Intercept	1.6	1.37, 1.831	1.131, 2.074
		Primary_Substantial	0.171	0.082, 0.254	-0.021, 0.338
Secondary_Minimal		0.15	0.022, 0.281	-0.108, 0.42	
Secondary_Substantial		0.387	0.273, 0.492	0.141, 0.596	
Managed		0.283	0.164, 0.377	-0.002, 0.467	
Urban		1.697	1.346, 1.943	0.847, 2.179	
NonHostAbundance	Intercept	2.42	2.198, 2.642	1.965, 2.873	
	Primary_Substantial	-0.172	-0.25, -0.091	-0.328, 0	
	Secondary_Minimal	-0.163	-0.276, -0.049	-0.391, 0.069	
	Secondary_Substantial	-0.207	-0.305, -0.102	-0.404, 0.019	
	Managed	-0.451	-0.539, -0.35	-0.625, -0.202	
	Urban	-1.192	-1.4, -0.946	-1.609, -0.452	

	PropHostAbundance	Intercept	-0.308	-0.483, -0.133	-0.67, 0.051
		Primary_Substantial	0.191	0.119, 0.257	0.031, 0.323
		Secondary_Minimal	0.171	0.066, 0.281	-0.039, 0.403
		Secondary_Substantial	0.349	0.252, 0.432	0.127, 0.515
		Managed	0.42	0.319, 0.495	0.154, 0.568
		Urban	1.406	1.102, 1.605	0.582, 1.793
		logTotalAbund	0.635	0.608, 0.667	0.583, 0.708

Supplementary Table 6: Fixed-effects posterior distributions from order-level models

(occurrence and zero-truncated abundance). We fitted separate occurrence (binomial logit-link) and zero-truncated abundance (log-link) models to estimate the average effect of land use across all species within taxonomic subsets (order-level within mammals and birds). Models included a fixed-effects interaction term between land use type and host status, except for Primates where separate models were fitted for hosts and non-hosts due to lack of non-hosts in managed land. As with community models, each model was fitted using a bootstrap approach to account for research effort, with each iteration transitioning a proportion of non-hosts to host status (Methods, Extended Data 2, Extended Data 5). Table shows summary posterior fixed effects estimates (median and 95% quantile range) calculated across posterior samples drawn from 500 bootstrapped models (2500 per model), along with number of studies and sites per order, the total number of species included, the mean number of non-hosts reclassified to ‘host’ for each model iteration, and the mean number of host species per model iteration. Estimates are on the linear predictor (link) scale, and are shown transformed to the natural scale in Extended Data 5.

Class	Order	Parameter	Occurrence (log odds) (posterior median and 95% interval)	Zero-truncated abundance (log) (posterior median and 95% interval)	Stu dies	Sites	Total speci es	Mean re- classi fied	Mean num host species (boot- strap)
Aves	Passeriformes	Intercept	-0.698 (-1.088, -0.304)	1.451 (1.272, 1.629)	78	4302	1868	16.05	78.05
Aves	Passeriformes	LandUseTypeManaged	-0.349 (-0.396, -0.303)	-0.077 (-0.097, -0.057)					
Aves	Passeriformes	LandUseTypeSecondary	-0.214 (-0.264, -0.165)	-0.044 (-0.064, -0.023)					
Aves	Passeriformes	LandUseTypeUrban	-0.671 (-0.804, -0.542)	-0.068 (-0.129, -0.006)					
Aves	Passeriformes	IsHost	-0.16 (-0.45, 0.136)	0.017 (-0.093, 0.128)					
Aves	Passeriformes	LandUseTypeManaged:IsHost	0.596 (0.373, 0.811)	0.045 (-0.041, 0.12)					
Aves	Passeriformes	LandUseTypeSecondary:IsHost	0.128 (-0.194, 0.449)	0.039 (-0.077, 0.154)					
Aves	Passeriformes	LandUseTypeUrban:IsHost	1.567 (1.323, 1.779)	0.208 (0.109, 0.305)					
Aves	Psittaciformes	Intercept	-0.58 (-9.083, 8.517)	1.9 (-6.581, 8.792)	41	2500	87	3.97	25.97
Aves	Psittaciformes	LandUseTypeManaged	-1.049 (-1.408, -0.699)	-0.678 (-0.89, -0.328)					
Aves	Psittaciformes	LandUseTypeSecondary	-0.61 (-0.922, -0.301)	-0.288 (-0.476, -0.094)					
Aves	Psittaciformes	LandUseTypeUrban	0.888 (-0.883, 2.702)	-0.511 (-1.38, 0.319)					
Aves	Psittaciformes	IsHost	0.05 (-0.642, 0.72)	-0.043 (-0.324, 0.268)					
Aves	Psittaciformes	LandUseTypeManaged:IsHost	0.28 (-0.473, 1.007)	0.451 (-0.478, 0.841)					
Aves	Psittaciformes	LandUseTypeSecondary:IsHost	0.514 (-0.04, 1.051)	0.298 (-0.062, 0.604)					
Aves	Psittaciformes	LandUseTypeUrban:IsHost	0.558 (-2.171, 3.346)	-0.152 (-1.376, 1.084)					
Mammalia	All	Intercept	-0.428 (-1.174, 0.312)	1.141 (0.89, 1.386)	63	1886	521	50.60	184.60
Mammalia	All	LandUseTypeManaged	-0.578 (-0.79, -0.364)	-0.009 (-0.107, 0.084)					
Mammalia	All	LandUseTypeSecondary	-0.239 (-0.436, -0.041)	0.085 (0.007, 0.163)					
Mammalia	All	IsHost	0.259 (-0.107, 0.622)	0.228 (0.09, 0.367)					
Mammalia	All	LandUseTypeManaged:IsHost	0.447 (0.102, 0.785)	0.185 (0.046, 0.333)					
Mammalia	All	LandUseTypeSecondary:IsHost	0.493 (0.143, 0.84)	0.012 (-0.113, 0.141)					
Mammalia	Carnivora	Intercept	-2.173 (-3.64, -0.577)	0.948 (0.609, 1.282)	15	827	58	12.86	35.86
Mammalia	Carnivora	LandUseTypeManaged	-0.835 (-2.286, 0.431)	-0.009 (-0.315, 0.295)					
Mammalia	Carnivora	LandUseTypeSecondary	-0.825 (-2.439, 0.542)	-0.07 (-0.377, 0.232)					
Mammalia	Carnivora	IsHost	-0.062 (-1.179, 1.05)	0.024 (-0.18, 0.231)					
Mammalia	Carnivora	LandUseTypeManaged:IsHost	0.455 (-0.891, 1.961)	-0.099 (-0.408, 0.214)					
Mammalia	Carnivora	LandUseTypeSecondary:IsHost	0.717 (-0.839, 2.49)	-0.046 (-0.358, 0.271)					
Mammalia	Cetartiodactyla	Intercept	0.619 (-0.936, 2.33)	1.362 (0.832, 1.893)	15	604	33	4.07	15.07
Mammalia	Cetartiodactyla	LandUseTypeManaged	-0.623 (-1.884, 0.287)	-0.117 (-0.424, 0.193)					
Mammalia	Cetartiodactyla	LandUseTypeSecondary	-0.375 (-1.329, 0.496)	-0.064 (-0.301, 0.155)					
Mammalia	Cetartiodactyla	IsHost	-0.653 (-2.089, 0.799)	0.004 (-0.263, 0.273)					
Mammalia	Cetartiodactyla	LandUseTypeManaged:IsHost	1.052 (-0.644, 2.782)	0.255 (-0.263, 0.745)					
Mammalia	Cetartiodactyla	LandUseTypeSecondary:IsHost	0.631 (-1.046, 2.287)	0.111 (-0.348, 0.554)					
Mammalia	Chiroptera	Intercept	-0.787 (-2.43, 0.903)	1.044 (0.59, 1.481)	13	346	177	16.81	52.81
Mammalia	Chiroptera	LandUseTypeManaged	-0.297 (-0.619, 0.024)	0.059 (-0.088, 0.194)					

Mammalia	Chiroptera	LandUseTypeSecondary	-0.052 (-0.405, 0.3)	-0.041 (-0.184, 0.101)					
Mammalia	Chiroptera	IsHost	0.397 (-0.176, 0.958)	0.362 (0.105, 0.621)					
Mammalia	Chiroptera	LandUseTypeManaged:IsHost	0.446 (-0.152, 1.038)	0.235 (0.002, 0.491)					
Mammalia	Chiroptera	LandUseTypeSecondary:IsHost	0.199 (-0.432, 0.822)	0.124 (-0.107, 0.361)					
Mammalia	Primates	Host_Intercept	1.848 (-0.709, 6.713)	1.737 (0.901, 2.509)	16	583	38	5.54	22.54
Mammalia	Primates	Host_Secondary	-1.005 (-1.847, -0.132)	-0.018 (-0.239, 0.2)					
Mammalia	Primates	Host_Managed	-2.539 (-3.645, -1.415)	-0.233 (-0.653, 0.183)					
Mammalia	Primates	Non-host_Intercept	0.052 (-3.045, 3.058)	1.083 (0.02, 2.136)					
Mammalia	Primates	Non-host_Secondary	-1.394 (-2.595, -0.222)	-0.036 (-0.37, 0.272)					
Mammalia	Primates	Non-host_Managed							
Mammalia	Rodentia	Intercept	-0.816 (-2.186, 0.436)	1.402 (0.941, 1.885)	31	1133	126	6.49	42.49
Mammalia	Rodentia	LandUseTypeManaged	-0.96 (-1.387, -0.513)	-0.025 (-0.282, 0.237)					
Mammalia	Rodentia	LandUseTypeSecondary	-0.271 (-0.657, 0.116)	0.229 (0.032, 0.425)					
Mammalia	Rodentia	IsHost	0.401 (-0.427, 1.256)	-0.006 (-0.314, 0.304)					
Mammalia	Rodentia	LandUseTypeManaged:IsHost	1.168 (0.283, 1.871)	0.343 (-0.001, 0.676)					
Mammalia	Rodentia	LandUseTypeSecondary:IsHost	0.81 (-0.048, 1.683)	-0.095 (-0.418, 0.24)					

Supplementary Table 7: Fixed-effects posterior estimates from mammal pathogen richness

models. Table summarises continuous fixed effects parameter estimates from human-shared and non human-shared pathogen richness models, with species occurrence (binomial logit-link) modelled as an interaction between residual pathogen richness (scaled to mean 0, sd 1) and land use type. Both models included random intercepts for species, order, study and spatial block within study. Fixed effects were assigned an uninformative Gaussian prior (mean 0, precision 0.01), and all random intercepts were modelled as Gaussian variables with a precision hyperprior (log-gamma with shape 0.1, scale 0.1). Managed land was specified as the base factor in models, so ‘Intercept’ and ‘PathRich’ are respectively the intercept and slope parameter for managed sites, and estimates for primary and secondary lands measure the differences in either intercept or slope from the base factor. All estimates are shown as median and 95% credible interval of posterior density, on the link (log-odds) scale. Estimates are shown from the full model, and from three further sensitivity analyses: the summary posterior across 400 bootstrapped models fitted to different posterior samples of residual pathogen richness (to test for sensitivity to uncertainty in the relationship between publication effort and pathogen richness), and for the full model either excluding all orders in the Global Mammal Parasite Database, or including only the orders from the Global Mammal Parasite Database (Methods).

Model	Parameter	Type	Full model estimate (median ± 95 CI)	Bootstrapped posterior estimate (400 models)	Estimate excl. GMPD orders	Estimate only GMPD orders
Human-shared	Intercept	intercept	-0.647 (-1.375, 0.071)	-0.663 (-1.393, 0.058)	-0.496 (-1.242, 0.225)	-1.437 (-3.923, 1.043)
Human-shared	PathRich	continuous	0.313 (0.155, 0.471)	0.294 (0.1, 0.475)	0.697 (0.444, 0.955)	0.152 (-0.078, 0.383)
Human-shared	LU_Primary	categorical	0.41 (0.261, 0.56)	0.408 (0.258, 0.559)	0.258 (0.092, 0.425)	1.052 (0.691, 1.425)
Human-shared	LU_Secondary	categorical	0.321 (0.164, 0.478)	0.326 (0.168, 0.483)	0.261 (0.085, 0.438)	0.433 (0.085, 0.783)
Human-shared	LU_Primary:PathRich	continuous (interaction)	-0.212 (-0.33, -0.096)	-0.196 (-0.327, -0.065)	-0.386 (-0.597, -0.177)	-0.23 (-0.393, -0.071)
Human-shared	LU_Secondary:PathRich	continuous (interaction)	-0.148 (-0.266, -0.034)	-0.136 (-0.265, -0.004)	-0.226 (-0.453, -0.001)	-0.132 (-0.281, 0.006)
Non-human	Intercept	intercept	-0.659 (-1.401, 0.072)	-0.679 (-1.421, 0.051)	-0.59 (-1.344, 0.13)	-1.265 (-3.753, 1.224)
Non-human	PathRich	continuous	0.29 (0.125, 0.456)	0.264 (0.015, 0.497)	0.45 (0.159, 0.743)	0.203 (-0.013, 0.418)
Non-human	LU_Primary	categorical	0.416 (0.267, 0.564)	0.413 (0.262, 0.566)	0.329 (0.16, 0.498)	0.917 (0.59, 1.251)
Non-human	LU_Secondary	categorical	0.353 (0.198, 0.509)	0.352 (0.196, 0.507)	0.299 (0.122, 0.476)	0.549 (0.212, 0.891)
Non-human	LU_Primary:PathRich	continuous (interaction)	-0.33 (-0.455, -0.209)	-0.297 (-0.488, -0.095)	-0.66 (-0.894, -0.432)	-0.196 (-0.35, -0.044)
Non-human	LU_Secondary:PathRich	continuous (interaction)	-0.084 (-0.209, 0.037)	-0.058 (-0.263, 0.131)	-0.18 (-0.361, -0.01)	0.007 (-0.183, 0.195)

Supplementary Table 8: Biodiversity, environmental and host-pathogen data sources. Data processing is described in Methods, and code and compiled datasets where not freely available online (e.g. human pathogens list as described below) are provided in the associated data and code repository (doi: [10.6084/m9.figshare.7624289](https://doi.org/10.6084/m9.figshare.7624289)).

Variable/dataset name	Original format	Data source	Reference
Georeferenced species records	Occurrence and abundance per-site, nested within source studies.	Projecting Responses of Ecological Diversity in Changing Terrestrial Systems (PREDICTS).	Hudson <i>et al.</i> , 2017 ⁴
Land use type	Categorical: either primary, young secondary, intermediate secondary, mature secondary, cropland, pasture, plantation forest, urban.	PREDICTS database. Sites classified based on description in source paper.	Hudson <i>et al.</i> , 2017 ⁴
Land use intensity	Categorical: either minimal, light, intense, or cannot decide.	PREDICTS database. Sites classified based on source paper description.	Hudson <i>et al.</i> , 2017 ⁴
Enhanced Infectious Diseases database (EID2)	Database of cargo-carrier (host-parasite) interactions, inferred from web-based sources	EID2 database of host-parasite and related species interactions.	Wardeh <i>et al.</i> 2015 ⁵
Global Mammal Parasite Database 2.0	Database of host species-parasite species associations for primates, ungulates and carnivores, collated from the scientific literature	Global Mammal Parasite Database 2.0	Stephens <i>et al.</i> , 2017 ⁶
Mammal viruses database	Database of all known host-virus associations for all mammals, including zoonotic status, collated from the scientific literature	Olival <i>et al.</i> 's mammal virus analysis.	Olival <i>et al.</i> , 2017 ¹
Reservoir hosts database	Database of pathogen-reservoir host associations for 330 disease systems, collated from the scientific literature.	Plourde <i>et al.</i> 's reservoir host database and analysis.	Plourde <i>et al.</i> , 2017 ⁷
Rodent reservoirs database	Database of zoonotic reservoir status for all rodent species, with pathogen information collated from Global Infectious Disease and Epidemiology Network (GIDEON)	Han <i>et al.</i> 's analysis of zoonotic rodent reservoir traits.	Han <i>et al.</i> , 2015 ⁸

Human pathogens list (broad)	List of all known human pathogens/parasites collated from web and literature sources, used for cross-referencing against host datasets.	Taylor <i>et al.</i> 's human pathogens list ; DNA Pathogen Frequencies; Bode Science Center; Jones <i>et al.</i> emerging pathogens; extracted March 2017.	Taylor <i>et al.</i> , 2001; Jones <i>et al.</i> , 2008 ^{9,10}
Zoonotic agents list (strict)	All human pathogens cross referenced against web and literature lists of zoonotic agents (recognised aetiological agent of a specific human disease with an animal reservoir).	Global Infectious Disease and Epidemiology Network (GIDEON); Atlas of Human Infectious Diseases (2012); Taylor <i>et al</i> (2001).	Taylor <i>et al.</i> , 2001; Wertheim <i>et al.</i> , 2012 ^{9,11}
Disease-related research effort	Number of PubMed entries per-species, 1950-2017	Extracted from PubMed online database, August 2018.	PubMed
Human population density (2015)	Global, ~1km grid cells	Gridded Population of the World v4 (CIESIN 2015).	CIESIN

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