

# Supporting Information

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## SI Text

**Mapping and Analyzing Languages, Biodiversity Regions, and Conservation Priorities.** The language data used for this study are based on the 16th edition of *SIL Ethnologue*, a catalog of more than 6,900 of the world's languages (1). Despite gaps in coverage because of the absence of reliable statistical data in certain areas and inconsistencies in enumeration resulting from lack of firm linguistic criteria for distinguishing between languages and dialects, a number of scholars agree that the *Ethnologue* is still the most authoritative and only globally comprehensive source of basic information about languages and their speakers (2–5). Researchers using the book for analyses of trends in recent language demographics and worldwide linguistic diversity regard it as indispensable and sufficiently accurate for identifying broad global patterns concerning the relationship between linguistic diversity and biodiversity (2, 6, 7).

The map data for global languages used in this study consist of the *SIL Ethnologue* catalog that Global Mapping International assembled in a geographic information system format (8). These mapped language data show geographic areas (as polygons) where languages are used, instead of points, thereby providing a basis for identifying language co-occurrence with various areas containing noteworthy biodiversity. The mapped languages occasionally include nonindigenous languages or migrant languages with little difference from the original form spoken in their country of origin. To maintain our focus on linguistic and cultural diversity, we removed any instances of nonindigenous languages that occurred in the hotspots and high biodiversity wilderness areas. We mapped languages on a 2-arc-degree grid in Fig. 1B, the cells measuring about 222 km on a side near the equator (slightly smaller toward the poles), to show the geographic distribution of languages and how they tend to be concentrated in regions of high biodiversity. Each grid cell represents the total number of different language polygons that occur within its bounds.

The concept of biodiversity hotspots, originally proposed by Myers (9), refers to regions that have exceptionally high plant endemism and large percentages of natural habitat loss (10, 11). As increasing amounts of data have become available, researchers refined both the definition of a hotspot and its application. Currently, hotspots are defined as regions that contain minimally 1,500 vascular plants as endemics and retain 30% or less of their original vegetation. Recent reanalysis of global biodiversity and habitat identified 35 hotspots that host more than 50% of the world's vascular plant species and at least 43% of terrestrial vertebrate species as endemics (12). These hotspots represent aggregations of terrestrial ecoregions (13) and have been compiled by Conservation International digitally in geographic information system format.

High biodiversity wilderness areas are large expanses of land or sea that remain generally unmodified from their natural state and contain high biodiversity. Using a minimum extent of 10,000 km<sup>2</sup>, maximum habitat loss of 30%, and maximum rural human population density in 1995 of five persons per square kilometer, researchers defined 24 wilderness areas covering 44% of the earth's terrestrial surface (14). Five of these wilderness areas contained most of the endemic vascular plant and terrestrial species found in the wilderness areas as a whole: Amazonia, the Congo Forests of central Africa, New Guinea, the Miombo-Mopane Woodlands of southern Africa, and the North American desert complex of the southwestern United States and northwestern Mexico. As with the hotspots, Conservation International has developed digital representations of high biodiversity wilderness areas in geographic information system format.

The main text of this article presents the main results of the biodiversity region-language co-occurrence in graphic form, for all languages, languages endemic to a particular biodiversity region, languages spoken by 10,000 or fewer people, and languages spoken by 1,000 or fewer people (Fig. 2). Here we supplement that summary by showing the detailed results in tabular form (Tables S1–S3).

In the main text of the article, we discuss co-occurrence of indigenous and nonmigrant languages with endangered amphibians and protected areas (Fig. 3). The Global Amphibian Assessment, led by the World Conservation Union (IUCN), assembled data on the occurrence of 5,743 described amphibians around the world (15). The process of data compilation consisted of two stages: First, an expert on amphibians in each of 33 designated regions assembled data on all amphibian species in that region, including geographic range, population status, and habitat preference. Second, all data assembled by the Global Amphibian Assessment were reviewed by workshops organized for particular areas, or by leading herpetologists, to ensure their accuracy. Data from the assessment were organized in geographic information system format, as polygons showing geographic range. Linking these data with the IUCN Red List enabled assignment of level of threat to each species. Here we focused on the two categories indicating the greatest level of threat—critically endangered and endangered—representing species that face a very high risk of extinction in the wild (16). Our analysis used updated data, released in 2006, that included 5,816 species.

We obtained data on the location and geographic extent of protected areas, such as national parks, from the recently released 2010 World Database on Protected Areas (17). Compiled by a consortium of organizations, including BirdLife International, Conservation International, Fauna and Flora International, The Nature Conservancy, United Nations Environmental Program-World Conservation Monitoring Centre, the Wildlife Conservation Society, and the World Wildlife Fund, this database consists of geographic information system data containing the locations of protected areas and associated characteristics (e.g., country, geographic coordinates, type of protected area). The World Database on Protected Areas represents protected areas as points or polygons. Because polygons provide much more information on the geographic extent of protected areas—and, hence, a better basis for identifying which protected areas overlap with indigenous languages—our analysis focused exclusively on sites represented in this manner. The 2010 release of this database contains more than 100,000 records for protected areas represented as polygons. Our analysis considered 16,767 protected areas in hotspots and 2,379 in high biodiversity wilderness areas. Detailed results of our analysis of endangered amphibians and protected areas, in tabular form, appear in Table S1 for all languages and languages endemic to biodiversity areas, and in Tables S2 and S3 for languages spoken by 10,000 or fewer and 1,000 or fewer, respectively.

We also conducted analyses within high biodiversity regions of the co-occurrences between languages and other conservation priorities (see Tables S1–S3), threatened bird species, Alliance for Zero Extinction sites, and priorities for expanding the global protected area system. Data on globally threatened bird species were compiled by the BirdLife International partnership (18). Available information included range of occurrence—consisting of breeding, nonbreeding, and resident ranges—as well as threatened status, following the most recent analysis of the IUCN Red List (16). Range maps incorporated locality information that

included specimen records and sightings, in some cases enhanced by habitat and topographic data to aid in range definitions. For some species, ranges also included projected ranges based on the occurrence of suitable habitat close to known localities of occurrence. Data on certain species also included information on migration routes. Hundreds of experts reviewed ranges and threatened status to help ensure the accuracy of both. The most recent dataset on threatened birds, released in 2008, includes 1,222 species. As with amphibians, in this study we focused on the two most highly threatened categories of birds, critically endangered and endangered, totaling 553 species in all.

Alliance for Zero Extinction sites represent locations of highly threatened species from five globally assessed taxa (mammals, birds, selected reptiles, amphibians, and conifers) that are confined to single localities (19). All species defining these localities appear as endangered or critically endangered on the 2004 IUCN Red List (16). Sites consisted of the sole localities where highly endangered species occur, localities where the overwhelmingly significant (more than ~95%) of the known global resident population occurs, or localities where the overwhelmingly significant population for one life-history segment (e.g., breeding) occurs. In all, these criteria identified 779 species that occurred at 595 sites. Alliance for Zero Extinction sites were assembled as a geographic information system database representing a single point for each site. In our analysis, we examined the co-occurrence of languages with Alliance for Zero Extinction species rather than sites, to remain consistent with the bird and amphibian portions of the analysis.

Global priority gap locations emerged from an evaluation of how well the existing network of global protected areas—such as national parks and other types of reserves—covers more than 11,600 vertebrate species (20). That study focused on species

with documented ranges of occurrence, including mammals, amphibians, freshwater turtles and tortoises, and globally threatened birds. One result was the identification of nearly 1,400 locations (portions of cells from the half-degree grid used in the global gap analysis) that correspond to areas of high irreplaceability (concentrations of restricted-range species with little or no protection) and high threat (concentrations of species with high risk of extinction). These gap locations represent places that are priorities for expanding the network of biodiversity protection, through some sort of conservation action, to help maintain key vertebrate species.

The availability of language data and conservation priority data in geographic information system format enabled the systematic analysis of geographic co-occurrence through overlaying the former with various biodiversity data. In the case of the Alliance for Zero Extinction data, we identified all alliance sites (as point locations) that occurred within the geographic extent of a language. In the case of the remaining conservation priority datasets, we identified all priorities in each that geographically intersected a language.

**Measuring the Association between Linguistic and Biological Diversity at a Regional Scale.** In the main text we noted the presence of a positive statistical relationship between the number of languages per hotspot or wilderness area and the number of vascular plant species per region. We also measured at a regional scale the association of the number of languages and the number of species from several other taxa. Results based on simple parametric and nonparametric measures indicate the presence of positive relationships between linguistic diversity and the diversity of each taxon (Table S4).

- Lewis MP (2009) *Ethnologue: Languages of the World* (SIL International, Dallas, TX), 16th Ed.
- Harmon D, Loh J (2010) The Index of Linguistic Diversity: A new quantitative measure of trends in the status of the world's languages. *Language Documentation and Conservation* 4:97–151.
- Moseley C, ed (2007) *Encyclopedia of the World's Endangered Languages* (Routledge, New York).
- Paolillo JC, Das A (2006) *Evaluating Language Statistics: The Ethnologue and Beyond* (UNESCO Institute for Statistics, Paris).
- Campbell L, Grondona V (2008) Ethnologue: Languages of the world. *Language* 84(3): 636–641.
- Nettle D (1996) Language diversity in West Africa: An ecological approach. *J Anthropol Archaeol* 15:403–438.
- Stapp JR, et al. (2004) Development of a GIS for global biocultural diversity. *Policy Matters* 13:267–270.
- Global Mapping International (2010) *World Language Mapping System* (Global Mapping International, Colorado Springs), version 16.0.
- Myers N (1988) Threatened biotas: "Hotspots" in tropical forests. *Environmentalist* 8(3):187–208.
- Myers N, Mittermeier RA, Mittermeier CG, da Fonseca GAB, Kent J (2000) Biodiversity hotspots for conservation priorities. *Nature* 403:853–858.
- Mittermeier RA, et al., eds (2004) *Hotspots Revisited* (CEMEX, Mexico City).
- Mittermeier RA, Turner WR, Larsen FW, Brooks TM, Gascon C (2011) *Biodiversity Hotspots: Distribution and Protection of Conservation Priority Areas*, eds Zachos FE, Habel JC (Springer, Berlin), pp 3–22.
- Olson D, et al. (2001) Terrestrial ecoregions of the world. *Bioscience* 51:933–938.
- Mittermeier RA, et al. (2003) Wilderness and biodiversity conservation. *Proc Natl Acad Sci USA* 100:10309–10313.
- Stuart SN, et al. (2004) Status and trends of amphibian declines and extinctions worldwide. *Science* 306:1783–1786.
- Baillie JEM, Hilton-Taylor C, Stuart SN, eds. (2004) 2004 IUCN Redlist of Threatened Species. A Global Species Assessment (IUCN, Gland, Switzerland and Cambridge, UK).
- World Database on Protected Areas Consortium (2010) *World Database on Protected Areas Annual Release 2010* (United Nations Environment Programme, Nairobi, Kenya, and World Conservation Monitoring Centre, Cambridge, UK).
- Birdlife International (2008) *Critically Endangered Birds: A Global Audit* (BirdLife International, Cambridge, UK).
- Ricketts TH, et al. (2005) Pinpointing and preventing imminent extinctions. *Proc Natl Acad Sci USA* 102:18497–18501.
- Rodrigues ASL, et al. (2004) Global gap analysis: Priority regions for expanding the global protected area network. *Bioscience* 54:1092–1100.

**Table S1. Occurrence of individual conservation priorities in terms of indigenous or nonmigrant languages, by region of high biodiversity**

Conservation region	Total by conservation region (n)							Co-occurrence with indigenous languages (%)				
	Indigenous languages	Endemic languages	Endangered amphibians	Endangered birds	AZE species	Priority gap locations	Protected areas	Endangered amphibians	Endangered birds	AZE species	Priority gap locations	Protected areas
<b>Hotspot</b>												
Atlantic forest	16	7	52	45	19	66	459	34.6	40.0	10.5	21.2	29.2
California Floristic Province	27	18	4	5	5	8	665	100.0	60.0	—	12.5	3.5
Cape Floristic region	2	—	7	7	3	19	346	28.6	71.4	33.3	15.8	6.1
Caribbean Islands	20	20	125	27	77	73	632	52.0	51.9	53.2	30.1	26.1
Caucasus	58	33	1	5	2	—	179	—	100.0	100.0	—	81.6
Cerrado	28	6	3	17	4	19	301	—	41.2	—	5.3	27.9
Chilean forests	2	—	11	9	7	2	77	72.7	44.4	14.3	50.0	35.1
Coastal forests, East Africa	58	2	11	13	5	20	185	100.0	100.0	100.0	100.0	99.5
East Melanesian Islands	299	298	—	7	3	5	24	—	100.0	66.7	100.0	100.0
Eastern Afromontane Forests of East Australia	230	37	30	35	31	100	440	100.0	100.0	100.0	100.0	100.0
Guinean forests, West Africa	9	3	12	0	7	3	602	25.0	—	28.6	—	9.1
Himalaya	386	138	52	14	30	34	635	100.0	100.0	90.0	100.0	99.8
Horn of Africa	242	174	—	12	1	39	168	—	100.0	100.0	100.0	97.0
Indo-Burma	65	8	—	17	5	17	38	—	100.0	100.0	100.0	100.0
Irano-Anatolian	385	321	19	28	12	168	636	100.0	100.0	100.0	98.2	98.7
Japan	35	7	2	5	4	—	91	100.0	100.0	100.0	—	100.0
Madagascar	12	12	17	10	13	10	147	100.0	100.0	100.0	100.0	100.0
Madrean Pine-Oak Woodlands	18	18	31	34	35	112	102	100.0	100.0	100.0	100.0	100.0
Maputaland-Pondoland-Albany	179	53	101	12	19	35	304	60.4	66.7	26.3	48.6	18.8
Mediterranean Basin	7	—	7	8	—	30	275	85.7	100.0	—	96.7	88.7
Mesoamerica	76	10	13	14	9	4	2,077	100.0	100.0	100.0	100.0	99.3
Mountains., Central Asia	282	169	254	23	79	91	1,386	67.7	52.2	40.5	70.3	40.9
Mountains., SW China	29	3	1	3	1	—	73	100.0	100.0	100.0	—	98.6
New Caledonia	37	3	15	5	5	10	70	100.0	100.0	80.0	100.0	100.0
New Zealand	36	36	—	10	5	2	24	—	90.0	100.0	100.0	100.0
Philippines	1	1	2	35	18	7	3,669	—	45.7	—	—	17.2
Polynesia-Micronesia	162	156	16	22	15	89	238	93.8	100.0	93.3	98.9	95.0
Southwest Australia	51	50	1	59	36	11	138	100.0	93.2	86.1	100.0	90.6
Succulent Karoo	3	—	—	8	1	1	1,253	—	87.5	—	—	0.7
Sundaland	1	—	—	5	—	3	64	—	—	—	—	3.1
Tropical Andes	229	221	21	18	19	114	506	100.0	100.0	89.5	100.0	92.1
Tumbes-Choco-Magdalena	102	24	307	85	117	135	264	53.7	72.9	31.6	68.1	52.3
Wallacea	15	—	27	28	11	18	105	59.3	35.7	27.3	77.8	68.6
Western Ghats and Sri Lanka	315	312	4	31	22	40	156	100.0	96.8	90.9	97.5	95.5
Hotspot total*	52	26	85	10	30	56	434	100.0	100.0	100.0	100.0	100.0
Wilderness area	3,202	2,166	1,132	502	650	1,261	16,767	68.5	78.7	60.3	82.1	47.0
<b>Wilderness area</b>												
Amazonia	263	208	25	18	13	19	711	60.0	88.9	53.8	73.7	54.4
Congo forests	240	118	6	4	—	2	87	100.0	100.0	—	100.0	98.9
Miombo-Mopane	112	2	2	5	—	10	372	100.0	100.0	—	90.0	99.2
New Guinea	976	972	1	4	9	32	96	100.0	100.0	77.8	100.0	94.8
N. American deserts	32	8	7	9	14	1	1,113	57.1	33.3	7.1	—	6.0
Wilderness area total*	1,622	1,308	41	39	36	64	2,379	68.3	79.5	41.7	89.1	42.0

“—” Represents 0 or a percent that rounds to 0.0. AZE, Alliance for Zero Extinction.

\*Values for individual regions do not sum to total as some languages or conservation priorities occur in more than one region.

**Table S2. Occurrence of individual conservation priorities in terms of indigenous or nonmigrant languages spoken by 10,000 people or fewer, by region of high biodiversity**

Conservation region	Total by conservation region (n)						Co-occurrence with endangered languages (%)				
	Language spoken by ≤ 10,000	Endangered amphibians	Endangered birds	AZE species	Priority gap locations	Protected areas	Endangered amphibians	Endangered birds	AZE species	Priority gap locations	Protected areas
<b>Hotspot</b>											
Atlantic forest	11	52	45	19	66	459	28.8	40.0	10.5	21.2	16.1
California Floristic Province	26	4	5	5	8	665	100.0	60.0	0.0	12.5	3.5
Cape Floristic region	0	7	7	3	19	346	—	—	—	—	—
Caribbean Islands	3	125	27	77	73	632	0.8	7.4	2.6	1.4	0.0
Caucasus	22	1	5	2	—	179	—	40.0	—	—	3.9
Cerrado	23	3	17	4	19	301	—	35.3	—	5.3	17.3
Chilean forests	1	11	9	7	2	77	—	44.4	—	—	9.1
Coastal forests, East Africa	6	11	13	5	20	185	9.1	38.5	—	15.0	4.3
East Melanesian Islands	275	—	7	3	5	24	—	100.0	33.3	80.0	79.2
Eastern Afromontane	38	30	35	31	100	441	23.3	34.3	12.9	20.0	8.8
Forests, East Australila	9	12	—	7	3	602	25.0	—	28.6	—	9.1
Guinean forests, West Africa	128	52	14	30	34	635	57.7	78.6	10.0	67.6	12.0
Himalaya	116	—	12	1	39	169	—	66.7	—	25.6	26.0
Horn of Africa	12	—	17	5	17	38	—	29.4	—	5.9	28.9
Indo-Burma	167	19	28	12	168	636	36.8	64.3	—	25.0	15.4
Irano-Anatolian	1	2	5	4	—	91	—	40.0	—	—	—
Japan	7	17	10	13	10	149	52.9	60.0	38.5	70.0	2.7
Madagascar	0	31	34	35	112	102	—	—	—	—	—
Madrean Pine-Oak Woodlands	127	101	12	19	35	304	37.6	58.3	10.5	25.7	11.8
Maputaland-Pondoland-Albany	2	7	8	—	30	275	—	50.0	—	3.3	4.0
Mediterranean Basin	10	13	14	9	4	2,077	7.7	28.6	—	—	0.3
Mesoamerica	155	254	23	79	91	1,386	41.7	39.1	21.5	38.5	12.3
Mountains, Central Asia	11	1	3	1	—	73	—	66.7	—	—	2.7
Mountains, SW China	11	15	5	5	10	70	13.3	40.0	—	—	12.9
New Caledonia	35	—	10	5	2	24	—	90.0	100.0	100.0	100.0
New Zealand	0	2	35	18	7	3,669	—	—	—	—	—
Philippines	60	16	22	15	89	238	75.0	59.1	20.0	41.6	20.2
Polynesia-Micronesia	36	1	59	36	11	138	100.0	69.5	58.3	45.5	79.0
Southwest Australia	0	1	8	1	1	1,253	—	87.5	—	—	0.7
Succulent Karoo	0	—	5	—	3	64	—	0.0	—	—	—
Sundaland	120	21	18	19	114	506	47.6	61.1	21.1	46.5	19.2
Tropical Andes	50	307	85	117	135	264	14.3	36.5	6.0	20.7	22.7
Tumbes-Choco-Magdalena	9	27	28	11	18	105	33.3	14.3	9.1	38.9	22.9
Wallacea	165	4	31	22	40	156	25.0	45.2	4.5	45.0	27.6
Western Ghats and Sri Lanka	12	85	10	30	56	434	23.5	90.0	13.3	23.2	1.4
<b>Hotspot total*</b>	<b>1,553</b>	<b>1,132</b>	<b>502</b>	<b>650</b>	<b>1,261</b>	<b>16,767</b>	<b>25.4</b>	<b>42.4</b>	<b>13.1</b>	<b>25.9</b>	<b>7.0</b>
<b>Wilderness area</b>											
Amazonia	228	25	18	13	19	711	36.0	55.6	23.1	26.3	43.9
Congo forests	93	6	4	—	2	87	33.3	100.0	—	100.0	43.7
Miombo-Mopane	15	2	5	—	10	372	50.0	20.0	—	11.1	7.0
New Guinea	889	1	4	9	32	96	—	50.0	44.4	90.6	75.0
N. American deserts	26	7	9	14	1	1,113	57.1	33.3	7.1	0.0	4.9
<b>Wilderness area total*</b>	<b>1,251</b>	<b>41</b>	<b>39</b>	<b>36</b>	<b>64</b>	<b>2,379</b>	<b>39.0</b>	<b>48.7</b>	<b>22.2</b>	<b>58.7</b>	<b>21.1</b>

“—” Represents 0 or a percent that rounds to 0.0. AZE, Alliance for Zero Extinction.

\*Values for individual regions do not sum to total as some languages or conservation priorities occur in more than one region.

**Table S3. Occurrence of individual conservation priorities in terms of indigenous or nonmigrant languages spoken by 1,000 people or fewer, by region of high biodiversity**

Conservation region	Total by conservation region (n)						Co-occurrence with endangered languages (%)				
	Languages spoken by ≤ 1,000	Endangered amphibians	Endangered birds	AZE species	Priority gap locations	Protected areas	Endangered amphibians	Endangered birds	AZE species	Priority gap Locations	Protected areas
<b>Hotspot</b>											
Atlantic forest	7	52	45	19	66	459	17.3	31.1	5.3	13.6	4.6
California Floristic Province	25	4	5	5	8	665	100.0	60.0	—	12.5	3.3
Cape Floristic Region	0	7	7	3	19	346	—	—	—	—	—
Caribbean Islands	1	125	27	77	73	632	—	3.7	—	—	—
Caucasus	4	1	5	2	—	179	—	40.0	—	—	—
Cerrado	11	3	17	4	19	301	—	23.5	—	5.3	6.3
Chilean forests	0	11	9	7	2	77	—	—	—	—	—
Coastal forests, East Africa	1	11	13	5	20	185	—	23.1	—	10.0	—
East Melanesian Islands	127	—	7	3	5	24	—	71.4	—	—	29.2
Eastern Afromontane	8	30	35	31	100	441	—	8.6	3.2	3.0	2.0
Forests, East Australia	9	12	0	7	3	602	25.0	—	28.6	0.0	9.1
Guinean Forests, West Africa	26	52	14	30	34	635	15.4	14.3	—	23.5	2.0
Himalaya	29	—	12	1	39	169	—	50.0	—	15.4	11.8
Horn of Africa	4	—	17	5	17	38	—	11.8	—	—	15.8
Indo-Burma	49	19	28	12	168	636	26.3	57.1	—	9.5	6.1
Irano-Anatolian	0	2	5	4	—	91	—	—	—	—	—
Japan	2	17	10	13	10	149	—	20.0	—	—	0.7
Madagascar	0	31	34	35	112	102	—	—	—	—	—
Madrean Pine-Oak Woodlands	36	101	12	19	35	304	7.9	16.7	—	8.6	3.6
Maputaland-Pondoland-Albany	1	7	8	—	30	275	—	50.0	—	3.3	2.5
Mediterranean Basin	0	13	14	9	4	2,077	—	—	—	—	—
Mesoamerica	42	254	23	79	91	1,386	8.3	30.4	1.3	7.7	4.7
Mountains, Central Asia	4	1	3	1	—	73	—	66.7	—	—	1.4
Mountains, SW China	0	15	5	5	10	70	—	—	—	—	—
New Caledonia	21	—	10	5	2	24	—	80.0	20.0	100.0	50.0
New Zealand	0	2	35	18	7	3,669	—	—	—	—	—
Philippines	16	16	22	15	89	238	—	36.4	13.3	2.2	7.1
Polynesia-Micronesia	10	1	59	36	11	138	—	44.1	33.3	45.5	76.8
Southwest Australia	3	1	8	1	1	1,253	—	87.5	—	—	0.7
Succulent Karoo	0	—	5	—	3	64	—	—	—	—	—
Sundaland	48	21	18	19	114	506	23.8	50.0	—	20.2	7.9
Tropical Andes	17	307	85	117	135	264	4.2	18.8	1.7	5.2	9.8
Tumbes-Choco-Magdalena	2	27	28	11	18	105	3.7	7.1	—	5.6	8.6
Wallacea	53	4	31	22	40	156	—	41.9	—	10.0	9.6
Western Ghats and Sri Lanka	5	85	10	30	56	434	—	90.0	—	14.3	0.5
Hotspot total*	544	1,132	502	650	1,261	16,767	7.4	27.7	3.4	9.0	3.1
<b>Wilderness area</b>											
Amazonia	156	25	18	13	19	711	12.0	38.9	—	10.5	28.0
Congo forests	8	6	4	—	2	87	16.7	50.0	—	—	2.3
Miombo-Mopane	2	2	5	—	10	372	—	20.0	—	—	1.1
New Guinea	495	1	4	9	32	96	—	50.0	—	53.1	38.5
N. American deserts	14	7	9	14	1	1,113	28.6	11.1	7.1	—	1.9
Wilderness area total*	675	41	39	36	64	2,379	14.6	30.8	2.8	30.2	11.1

“—” Represents 0 or a percent that rounds to 0.0. AZE, Alliance for Zero Extinction.

\*Values for individual regions do not sum to total as some languages or conservation priorities occur in more than one region.

**Table S4. Correlation between number of languages per biodiversity hotspot or wilderness area and number of species per selected taxon**

Taxon	Pearson's $r$		Spearman's $r_{\rho}$	
	Correlation	Significance	Correlation	Significance
Amphibians	0.23	0.20	0.48	0.005
Birds	0.37	0.05	0.65	0.001
Mammals	0.42	0.01	0.66	0.001
Reptiles	0.29	0.10	0.43	0.01
Vascular plants	0.33	0.05	0.40	0.02