Title

Wildlife diversity in global team sport branding

Short title

Wildlife diversity in sport branding

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ABSTRACT

Many sport organizations worldwide have capitalized on wildlife iconography to develop their brand. Given the ongoing global biodiversity crisis and the importance of sport in modern societies, representations of wildlife in the sport industry offer enormous potential for shifting social norms, raising funds and promoting biodiversity conservation initiatives within the industry itself. We collected data on professional teams that use wild animals either in their name, logo, or supporters' nicknames across 50 countries and across ten team sports. We identified 727 sport organizations using wildlife iconography or nicknames. Mammals and birds are the most represented classes, and lions (*Panthera leo*), tigers (*P. tigris*), and grey wolves (*Canis lupus*) are the most frequently selected species. Threatened species and species with a declining population trend are more represented than other species, with differences across regions. This is a critical first step towards integrating biodiversity conservation in the sustainability agenda of sport organizations.

KEY WORDS

biodiversity, branding, connection to nature, conservation flagships, sport, team identification, threatened species, conservation marketing.

Wildlife iconography in sport

Wildlife iconography has long been used in art and folklore, and, more recently, in advertising and marketing (Braczkowski et al. 2021). Such iconography signals a connection between people and nature, and provides a shared sense of place, purpose, belonging, or rootedness associated with the living world (Rüdisser et al. 2019, Kronenberg and Bocian 2022). Animal imagery has been widely used to build national identities (Lawson 2019, Newbery et al. 2024), featured on flags and coins (Hammerschlag and Gallagher 2017, Newbery et al. 2024), in the branding of fashion and luxury goods (Cervellon 2013, Hooykaas et al. 2022), and in corporate communication (Kronenberg and Bocian 2022). The world of sport is no exception. However, the use of wildlife iconography in the sport industry is poorly documented, with little known about the diversity of wildlife represented in team brands, or how this could be leveraged for wildlife conservation.

Team sport organizations play a role in fostering social identity and cohesion (Jacobson 2003), and serve as powerful vectors for creating a sense of belonging. Team identification — defined as a "… fan's psychological connection to a team" (Wann et al. 2001) — can develop early in life, remain relatively stable over time, and contribute to fans' loyalty (Kolyperas et al. 2019), sense of self and community (Heere and James 2007, Slater et al. 2014), as well as to individual development (Bruner et al. 2017) and behaviour (Rees et al. 2015). To strengthen and capitalize on this bond, sport organizations have developed brands composed of names, visual symbols, and emblems designed to resonate emotionally with fans (Keller 1993, Funk and James 2006), and to consolidate a unique positioning among competitors (Keller and Lehmann 2006). Among these emblems, wild animal names and representations are commonly used, embedding animals into the core of team identity and fan attachment (Sartore-Baldwin and McCullough 2019, Arbieu et al. 2025). This emotional connection to wildlife through sport branding may offer a promising yet underexplored

avenue to foster conservation intentions (Arbieu et al. 2025). Recognizing this potential is important given that to date, biodiversity issues remain largely overlooked within the sport industry (Orr et al. 2022).

Wild animal symbols are not just aesthetically appealing, they are selected because fans and customers are familiar with the species (Díaz-Restrepo et al. 2021). Such symbols can convey particular characteristics and values that can be transferred to the teams they represent, thereby creating a strong connection with fans and consumers (Sartore-Baldwin and McCullough 2019). The dual process of *zoomorphism* (attributing animal traits to non-animal entities) (Brown and Ponsonby-McCabe 2014) and *anthropomorphism* (attributing human characteristics to non-human entities) (Root-Bernstein et al. 2013) allows sport teams to embody characteristics such as strength, agility, and resistance, while appealing to fans and building a cohesive group identity (Brown and Ponsonby-McCabe 2014). However, a comprehensive analysis of wildlife representation across different team sport organizations, and across cultures and genders, is lacking, leaving a large gap in understanding the cultural importance of these symbols and the diversity of their use (DeSantis 2018, Rüdisser et al. 2019).

Many of the species used in marketing have declining populations in the wild and might be threatened with extinction (Good et al. 2017, Courchamp et al. 2018). As such, these culturally important species used as sport emblems have the potential to act as flagship species — i.e., species that have the potential to generate public interest and mobilize large audiences who might otherwise not be concerned to support conservation initiatives (Good et al. 2017, Ladle et al. 2023). Here, we present a systematic assessment of wild animal taxa represented in professional team sport organizations to highlight existing and potential synergies between biodiversity conservation and sport branding in the current context of global biodiversity loss. We focused on animal taxa found in a team name, in a logo, or used

as a nickname for the community of fans (hereafter termed *wildlife teams* for simplicity), across the ten highest-income countries in five main regions (i.e., Europe, Americas, Asia, Africa, and Oceania) and across ten team sports, to ensure we included the sport organizations with the greatest potential (human and financial) resources (Miller et al. 2002, Waldron et al. 2013). Our aims were to answer three fundamental questions: (*i*) What is the diversity of wild animals represented in team sport brands? (*ii*) What is the conservation status (i.e., threatened vs. non-threatened) and population trend (i.e., increasing, decreasing, or stable) of the corresponding species? (*iii*) How does the diversity of animal representations vary across regions, sports, and genders?

Differences in taxonomic representation in team sports

BOX 1 to be inserted about here

Wildlife emblems in sport organizations represent a diversity of taxonomic groups, with differences across taxa, sports, and cultural contexts (Box 1, Supplementary Methods S1). Charismatic mammals (especially large carnivores) and birds (particularly birds of prey) were the most prominent in sport iconography, which supports previous findings concerning their cultural importance (Albert et al. 2018, Courchamp et al. 2018, Rüdisser et al. 2019, Ladle et al. 2023). These findings also generally agree with taxonomic biases in scientific interest towards charismatic species (Donaldson et al. 2017), and the biases in conservation funding that is mostly directed towards vertebrates (Guénard et al. 2025). Nevertheless, there was high overall diversity of wildlife representations, with 161 distinct taxa identified across 727 professional team sport organizations (Box 1). Interestingly, the taxonomic richness found in sport emblems was not related to actual country-specific animal richness (Table S2). Similar to previous studies on wildlife iconography in online communication (Mammola et al. 2023b), there were disparities in taxonomic representations (Supplementary Methods S1),

with some taxa easily identifiable to species, while we could only identify others to family, class, or order (Mammola et al. 2023a, 2023b). This reflects potential differences between folk taxonomies and scientific nomenclature (Beaudreau et al. 2011). For instance, bees, wasps, snakes, crabs, or dolphins are always used as generic terms or coarsely represented, which may help improve communication efficiency, but also prevent stronger associations with specific species (Hart and Sumner 2020) and oversimplify the complexity of biodiversity (Leandro and Jay-Robert 2019, Mammola et al. 2023a). There lies an opportunity to increase general knowledge about the great diversity of species hidden behind these coarse taxonomic groups and help shift attitudes and social norms: there are almost 1400 species of 'bats' (Frick et al. 2020), as many species of freshwater 'crabs' (Yeo et al. 2008) and around 20,000 species of 'bees' worldwide (Zattara and Aizen 2021).

Differences across sports and countries highlight the cultural importance of species

The number of *wildlife teams* within professional leagues was explained by the number of teams in the league and the sport category (44.6% of variance explained, Table S3), whereas region explained only an additional 1.6% (Table S3). The differences among sports were driven primarily by volleyball and handball, which both had fewer *wildlife teams* than football (Fig. S1). Handball had the lowest percentage of *wildlife teams* across sports, and rugby league had the highest percentage (Fig. S2). There was no evidence for a difference in the percentage and relative diversity between women's and men's *wildlife teams* (Table S3, Fig. S3). Football had the highest taxonomic richness (i.e., absolute number of distinct wild taxa) and lowest relative diversity (i.e., taxonomic richness divided by the number of *wildlife teams*), whereas American football had the highest relative diversity of wildlife taxa (Fig. S4). The selection of wild animals as emblems also depended on the cultural contexts given that we found important differences in taxonomic richness and relative diversity across

countries (Fig. 3). Some countries had a high relative diversity of animal taxa (e.g., Ethiopia, Saudi Arabia, Fiji), some had a high taxonomic richness (e.g., United States, Japan, United Kingdom), while others had few animal representations (e.g., Algeria, Ecuador, Egypt).

Thus, among the highest-income countries in each of the five regions, cultural specificities in sport practices and wildlife appreciation might play a role in driving the selection of wildlife species as sport organization emblems or fan nicknames, making them culturally important species (Garibaldi and Turner 2004). Five criteria pertaining to the definition of culturally important species (Garibaldi and Turner 2004) are indeed applicable to the sport industry, because these species (*i*) have a role in narratives, ceremonies, or symbolism, (*ii*) are ubiquitous in the collective cultural consciousness of the team, (*iii*) occupy a unique position in the local culture because they are difficult to replace with other species, (*iv*) are intensively used in different ways to communicate about the organization's brand and values through visual representation, game animations, social media posts, or non-verbal symbology such as tattoos, and (*v*) are highly represented in the sport culture's language, and in vocabulary through nicknames used in the press or in the prosaic lexicon. The last criterion to define culturally important species concerns the provision of opportunities for subsistence (e.g., food, material, etc.) and this criterion is not often met. This is because the motivations behind selection of species need not be linked to direct use or consumption, so sport organizations do not always select local wildlife (Fig. 4). This raises important questions about the possibility and willingness to promote, design, and/or contribute to significant conservation actions targeting species, or groups of species, that do not occur in the country of the respective sport organizations.

Preference for local birds and exotic mammals

In fact, there are differences in terms of spatial congruence (i.e., selection of species as sport emblems that were present in the respective countries) across countries: countries in Europe or the Americas tend to use representations of exotic wild animals compared to countries in Africa or Asia, which are more likely to choose local species (Fig. 4). Furthermore, we found differences among wildlife classes: local birds were more likely to be selected within a country, whereas mammals tended to be selected by teams in countries where they do not currently exist (Table S4). Nevertheless, we contend that the cultural significance of the wild animal species selected as sport emblems helps create a sense of community, rally a large fanbase and communicate the organization's values, while positioning its brand in the national and global sport market. As such, sport clubs could have a responsibility in preserving the cultural value of the species in question, and contributing to their conservation in the wild (Tavares de Freitas et al. 2019). These contributions could be embedded within their corporate environmental responsibility strategies, and extended to engage broader communities of stakeholders (e.g., institutional and commercial partners, athletes), reinforcing the social contract that connects them with the team (Arbieu et al. 2025).

Preference for threatened species and opportunities for biodiversity conservation

There is potential to capitalize on the cultural significance and emotional connection between sport and wildlife to encourage team sport brands to engage in conservation strategies that could both benefit wildlife conservation and strengthen brand equity (Arbieu *et al.*, submitted). Specifically, there are three main drivers that, in addition to cultural, social, and behavioral characteristics of the fans, could be harnessed to enhance their influence, and whose importance may vary over time and across team-specific contexts: (*i*) the status of the species used as a sport emblem, (*ii*) its taxonomic specificity, and (*iii*) the exclusivity of association with that species.

BOX 2 to be inserted about here

The status of the species, whether in terms of its threat risk or its local cultural importance, is an important factor to consider for such a strategy. Indeed, threatened species were selected more often than expected by chance (Box 2, Fig. 5) and at the same time, wildlife emblems are seen as irreplaceable (Wear et al. 2018) and deeply embedded in club identity (Schultz and Sheffer 2018). The conservation status of a species and the engagement of the sport organization against extinction of its emblem are thus undoubtedly important factors in simultaneously promoting brand equity, conservation, and fan engagement. The cultural status of the species, and in particular its local importance, might also be a strong marketing argument for promoting the firm's brand equity while supporting conservation (Albert et al. 2018, Courchamp et al. 2018). Sports organizations are more likely to invest in actions that bring visible and meaningful local benefits to their supporters (Trendafiova et al. 2017), often concentrated in a particular region. In most cases, the species represented in the emblem is present in the team's country (Fig. 4), making conservation actions more visible and locally impactful. Wolves are a typical example of a *Least Concern* species facing conservation conflicts across Europe, but which could benefit from more investment in conflict mitigation and environmental education (Di Bernardi et al. 2025). Here lies a concrete opportunity to promote fan engagement and transform individual and institutional behaviour. For instance, sport organizations and their commercial partners could provide material assistance to livestock owners and shepherds (e.g., provision of equipment such as stakes, nets), promote the sheep industry (e.g., meat and dairy products, wool) and encourage their fan communities to engage with state agencies or NGOs who seek volunteers and citizen scientists to support wolf monitoring, assist livestock owners to prevent wolf depredation (e.g., building livestock enclosures, guarding livestock in pastures), or maintain communication across multiple stakeholders (e.g., livestock owners, tourists, farmers, state agencies).

Taxonomic specificity is also an important element of sport-related conservation strategies. Our results show that while some teams use a specific species as their emblem (e.g., the Saitama Seibu Lions baseball club in Japan), many others (> 300 teams in our database) use emblems that are not identifiable to the species level. For example, the San Jose Sharks ice hockey team (United States) feature a generic shark, with 70 species of shark present in that country alone, 44% of which are classified as *Vulnerable*, *Endangered*, or *Critically Endangered* by the International Union for Conservation of Nature (IUCN). The first case allows for highly targeted conservation strategies focused on lions, based on their *Vulnerable* status. The second presents opportunities for broader conservation strategies, potentially supporting a wider range of projects that could benefit both brand marketing and wildlife conservation. Both cases offer opportunities to harness the charisma of these species and their resonance among fan communities by using them as conservation flagships (Jarić et al. 2025). This could inspire broader biodiversity action and advocacy, helping to conserve landscapes or protected areas, thereby benefiting many other species that might not be related phylogenetically. This is an important concept about flagship species: the disproportionate attention they receive can create a misleading impression of their importance and oversimplify the complexity of ecosystems and the levers (particularly financial) for managing them. Stewardship for the charismatic species should therefore be accompanied by a broader recognition that they are part of a vast tree of life shaped by ecological dynamics that require protection of entire ecosystems. They are also, and above all, emblems that help to generate support and funding for conservation.

Finally, exclusive use or sharing of the emblem by several teams could be an important factor in the strategies we present here. In the highly competitive sport sector, unique associations with wildlife can offer distinct branding opportunities while reinforcing the responsible management of emblematic species. In addition, a flagship fleet featuring unique

wildlife emblems, bringing together several sport organizations (e.g., within a league or country), could be established to pool resources and promote biodiversity conservation at local and international scales (Veríssimo et al. 2014). Conversely, we also observed some overlap in the choice of wildlife emblems, particularly among European and football organizations (Fig. 3, Fig. S4). Such overlaps pave the way for international and/or inter-sport conservation coalitions that could promote sport networks and mobilize greater support and resources for wildlife conservation. These connections between sport and wildlife conservation are possible, as illustrated by initiatives like the Tigers United Consortium—a coalition of universities that share the tiger as their emblem in collegiate sports and act for tiger conservation—or the partnership between the Saitama Seibu Lions and the Oxford Department of Zoology to support the Trans-Kalahari Predator Programme. However, these examples are rare, and there is currently no overarching framework to foster long-term and sustainable collaborations between the sport industry and biodiversity conservation (Arbieu et al. 2025).

Future research avenues

To guide the integration of biodiversity conservation on the sustainability agenda of sport organizations, conservationists need to understand the various motivations behind wildlife selection as sport brand emblems. Such motivations could relate to (*i*) the communication of values through species' traits, like the Toyota Antelopes basketball club in Japan, chosen for their symbolism of elegance and explosiveness; (*ii*) cultural legacy, as in the Quetzales Sajoma basketball club in Mexico that uses the quetzal (*Tragonidae* spp.), an emblematic bird from the Maya and Aztec cultures (Cocker and Tipling 2013); (*iii*) visual attributes, like the the Juventus football club in Italy, nicknamed 'the zebras' (*Equus quagga*), because of their black-and-white jersey; and (*iv*) ecological relevance, like the Auckland Tuatara

baseball club in New Zealand using an endemic and phylogenetically unique species of reptile (*Sphenodon punctatus*). More research could examine these motivations and test their relative importance to identify the most relevant leverage points and address conservation issues relating to the respective sport organizations' identities.

We only investigated animal species used as emblems by sport organizations, discarding plant species that are also present in sport iconography (although to a lesser extent). We also confined our search to ten countries and ten team sports per region and only included the top-tier leagues in each country, ignoring several countries, leagues, levels of play (e.g., collegiate sport, national teams) and sports (e.g., ground hockey, netball or esports) from the analysis. Our estimation of the potential for biodiversity conservation in global team sports is therefore conservative. Additional research could also design species trait analyses to determine the drivers of emblem selection across social-ecological contexts (e.g., size, trophic level, behaviour, colour), which could be paired with genuine semiotic analysis of the logos themselves to identify which traits are most salient.

Click or tap here to enter text.Our study is only a first step towards a promising field of interdisciplinary research at the intersection of the natural, sport, and social sciences. Hence, engaging sport organizations in conservation efforts could therefore become a novel strategy to raise awareness and foster positive environmental outcomes (Arbieu et al. 2025), aligning teams' values and fan sentiment with biodiversity goals.

DATA AVAILABILITY

All code and data are available online at https://doi.org/10.5281/zenodo.15282525.

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AUTHOR CONTRIBUTIONS

All authors contributed to the Conceptualization of the article; UA collected data; UA and CJAB analyzed the data; UA produced the first draft of the manuscript; All authors contributed to review and edit the manuscript.

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Box 1. Diversity of animal representations in major professional sport leagues

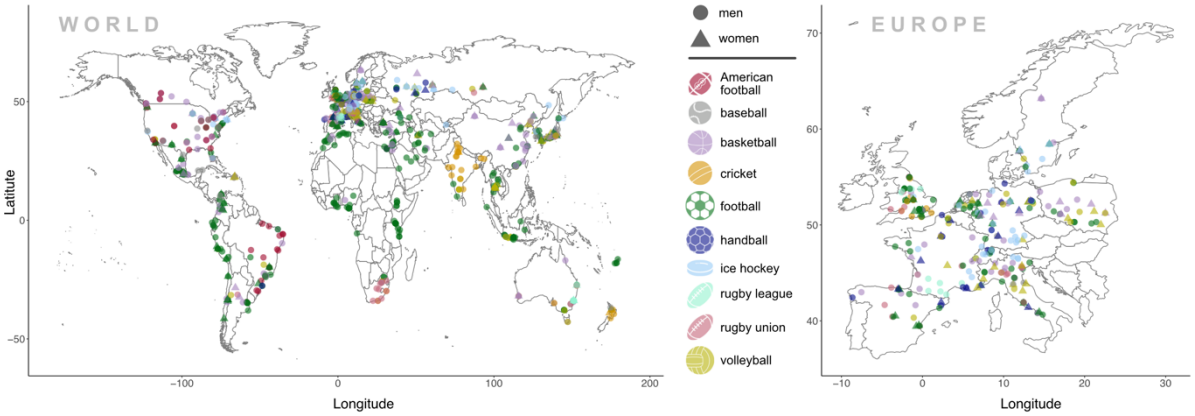

Figure 1. Geographical distribution of professional teams using (domestic and wild) animals in either their organization's name, their brand logo or the fans' nicknames. This investigation covers the 10 professional team sport leagues of the 10 highest-income countries (according to their gross domestic product) of each region, for the season 2022/2023 (see Methodology S1).

We identified 230 professional leagues for our 10 focus team sports (i.e., football, American football, rugby league, rugby union, basketball, ice hockey, volleyball, handball, baseball, and cricket) across five regions (i.e. Europe, Americas, Asia, Africa and Oceania) (Fig. 1). Among them, 197 leagues contained at least one *wildlife team*, i.e., teams that use a wild animal in either their organization's name, their brand logo, or the fans' nicknames. Overall, we found 727 such *wildlife teams* (n = 578 for men; n = 149 for women) representing 24.4% of all sport organizations (n = 2970 across the 230 professional leagues). *Wildlife teams* were represented by 161 distinct taxa identified at different taxonomic levels that spanned 10 classes, 54 orders, 73 families, and 86 species (Fig. 2, Table S1). Mammals and birds were the most represented classes, and lions (*Panthera leo*), tigers (*P. tigris*), grey wolves (*Canis lupus*), leopards (*P. pardus*), and brown bears (*Ursus arctos*) were the five most frequently selected species (Fig. 2). The golden eagle (*Haliaeetus leucocephalus*) was the most frequently represented bird (ranked 11th). However, given the difficulty of identifying eagles to species level, we most often had to pool them at the family level as 'Accipitridae' (Table S1).

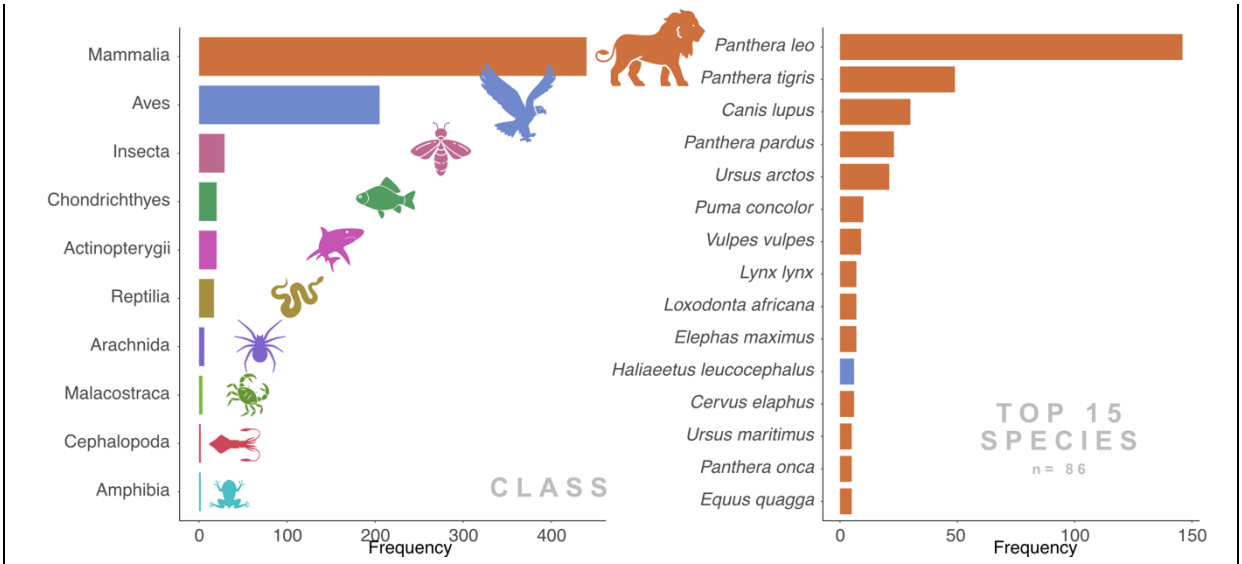

Figure 2. Histogram of wild taxa identified in professional team sport organizations, grouped into classes (left panel) and the top 15 species (right panel) identified. The complete list of taxa can be found in Table S1.

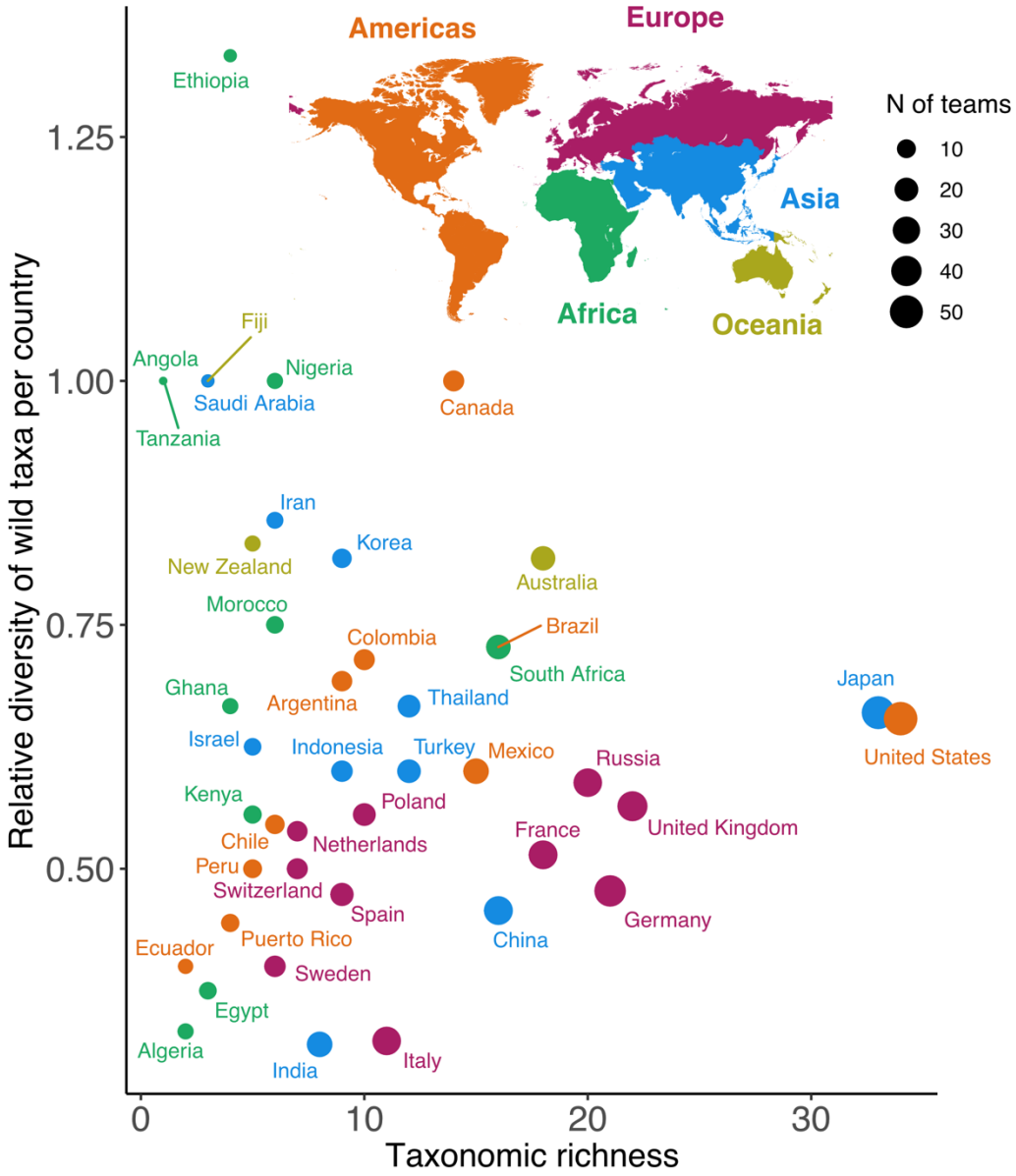

Figure 3. Biplot showing wildlife diversity in professional team sport across 5 regions. The size of the dots represents the number of sport organizations with a wildlife emblem in each country; hence, the relative diversity on the *y* axis is the taxonomic richness on the *x* axis divided by the number of sport organizations.

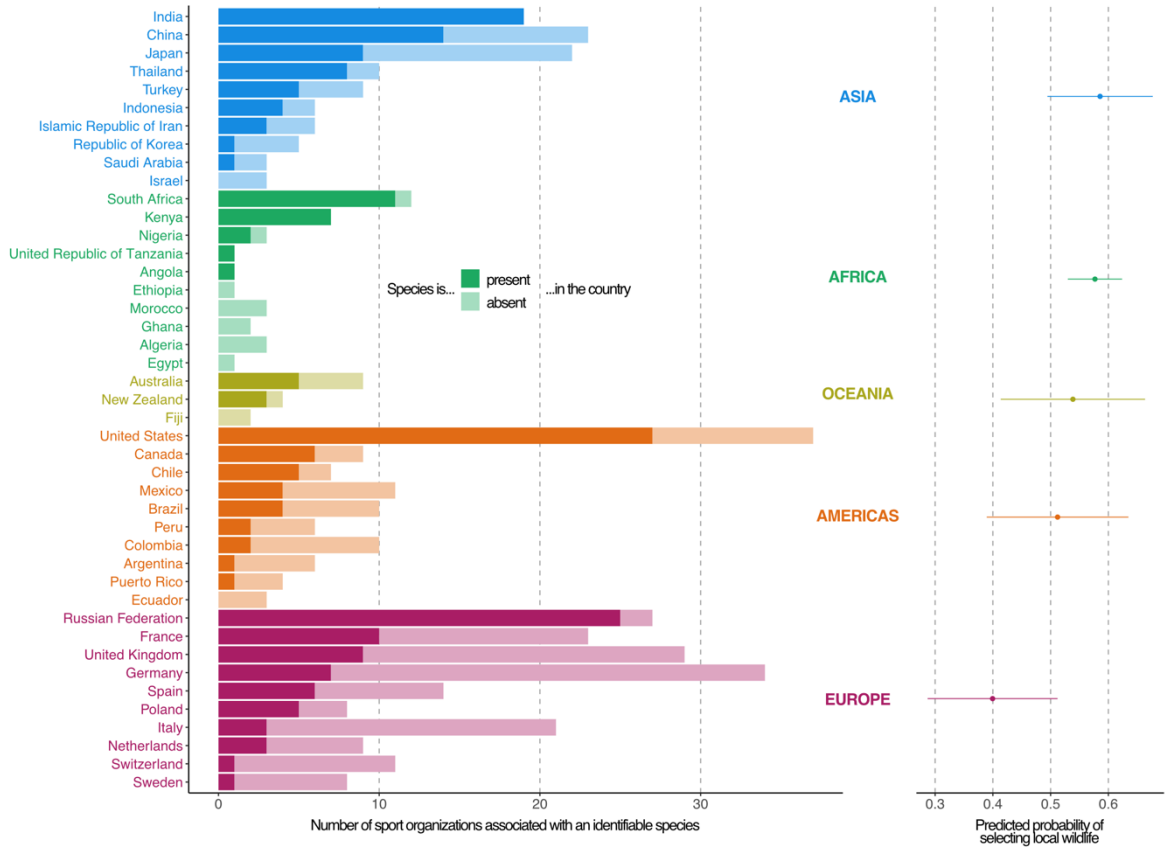

Figure 4. Spatial congruence in wildlife iconography. Left panel: For each country, the number of sport organizations having selected a wildlife species that is present/absent in the country. Right panel: predicted probability of selecting a local wildlife species in each region, based on a generalized linear mixed-effects model (binomial regression; see Table S4).

Box 2. Frequency of animal classes, conservation statuses and populations trends across regions

To assess the differences in wildlife representation, conservation status and population trends, we focused our analyses on wildlife taxa that could be identified to the species level (n = 84 after removal of two species with no data in the IUCN Red List Database, i.e. *Latrodectus hasselti* and *Myrmecia pilosula*). We developed a resampling (randomization) approach based on 100,000 iterations of a randomized χ^2-squared test to test the frequencies of counts in animal class representation, threat categories, and population trends across the five regions. We also applied exact binomial tests using the *binom.test* function in the R `stats` package to calculate the relative probability of selecting wildlife emblems among class levels. We did all statistical analyses in R (version 4.4.2) (R Core Team 2024), and all code and data are available online (Bradshaw 2025). Because of a low sample size in animal classes that were not *mammals* or *birds*, we pooled them into an *other* class for these tests to ensure statistical robustness. Similarly, we pooled the *Critically Endangered*, *Endangered* and *Vulnerable* categories into a *threatened* category and other statuses into a *non-threatened* category. These tests indicated no evidence for a difference among regions in the frequency of counts in wildlife classes — i.e., mammals, birds, and other classes (type I error probability of concluding a difference in class representation among regions = 0.499). However, the frequency of species in the two conservation statuses (*threatened vs*. non-threatened) differed among regions (type I error < 0.00001), and there was weak evidence for different directions in population trend (*increasing*, *decreasing*, or *stable*) among regions (type I error = 0.049). Furthermore, the exact binomial tests indicated that mammals were more likely to be selected than birds or other classes (pr_{mammal} = 0.830–1.000; type I error < 0.0001), as were threatened compared to non-threatened species ($pr_{threatened}$ = 0.543–0.637; type I error = 0.0002), and declining populations compared to stable or increasing ones ($pr_{decreasing}$ = 0.599–1.000; type I error < 0.0001) (Fig. 5).

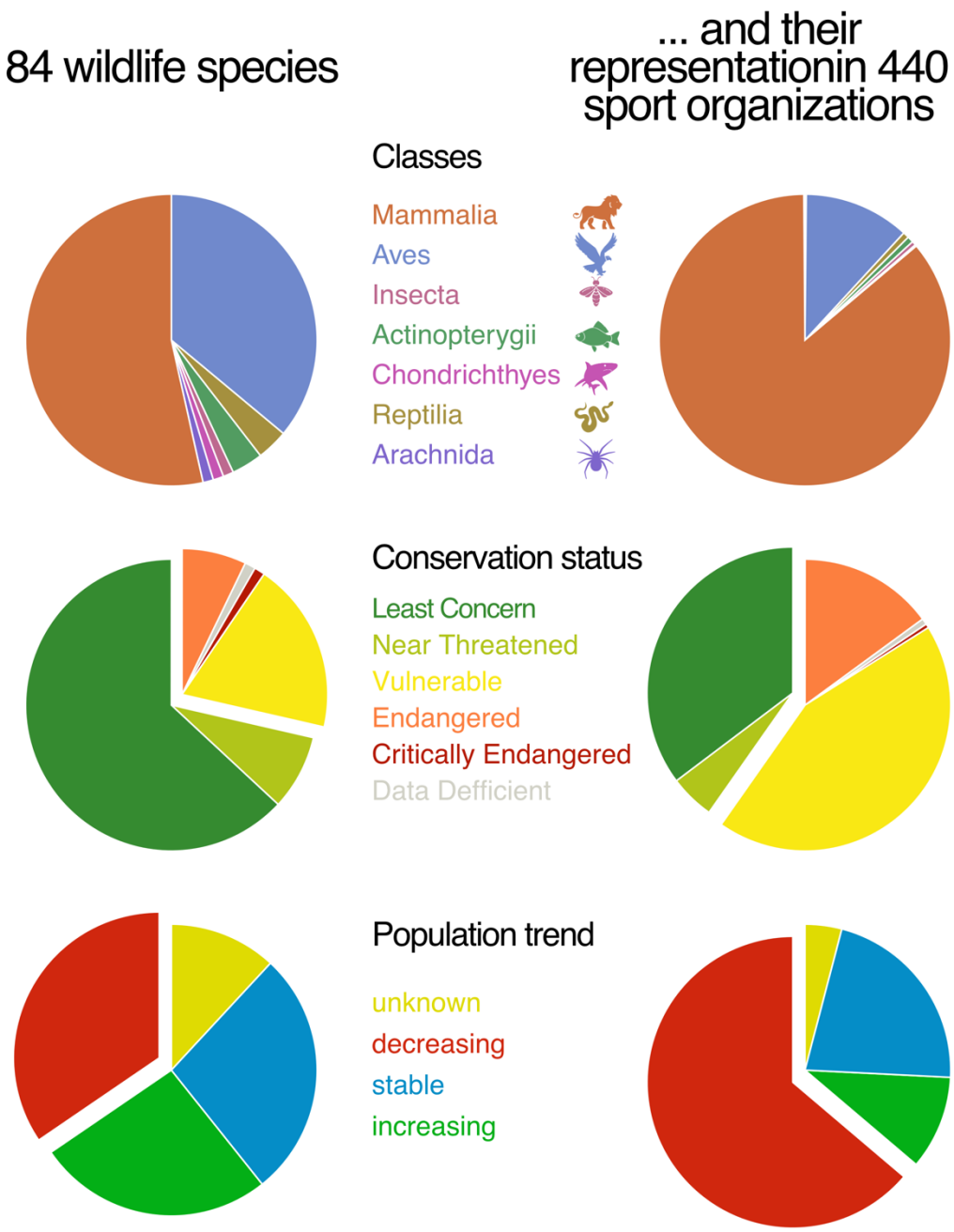

Figure 5. Distribution of taxonomic classes, conservation status, and population trend of the $n = 84$ taxa identified to species level (left panel) and their representation across the 440 team sport organizations that use these taxa as part of their identity (right panel).

SUPPORTING INFORMATION

Wildlife diversity in global team sport branding

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Methods S1

Professional team sport organizations

Our focus was to collect data on the professional leagues of ten team sports (football, American football, rugby league, rugby union, basketball, ice hockey, volleyball, handball, baseball, and cricket) of the 10 highest-income countries (according to gross domestic product from data.worldbank.org — an indicator of economic performance on the international market) in five main regions (i.e., Europe, Americas, Asia, Africa, Oceania). We selected 10 countries in each region to ensure that we had enough data to allow for inter-region comparisons. This choice to focus on professional leagues of the strongest economies in each region was motivated by our assumption that these would be the most relevant targets for biodiversity interventions because they are the ones with the highest potential (human and financial) resources. To determine if a league was professional, we examined the league's website, Wikipedia page, and social networks. In the absence of clear evidence of professional status, we contacted the league directly to determine its amateur, semi-professional, or professional status. In the absence of a response, we did not collect information on the league and considered it non-professional. While some sport organizations are professional, the league in which they compete might not be. In such cases, we excluded the league from analysis. We found professional leagues in all countries except Guam, New Caledonia, Northern Mariana Island, Papua New Guinea, Solomon Islands, and Vanuatu (the World Bank uses 'country' interchangeably with 'economy', which does not imply political independence but refers to any territory that has a population > 30,000 and for which authorities report separate economic statistics).

We screened each sport organization in these professional leagues for the presence of a wild animal species either in the (*i*) organization's name, (*ii*) organization's logo, or (*iii*) fans' nickname. We term the teams associated with wildlife iconography or wildlife-related fans' nicknames as *wildlife teams* for simplicity. The search concerned both men's and women's leagues for the 2022–2023 season.

Geography of sport organizations

We determined the geographical coordinates of each sport organization by the location of the stadium where the organization played its home games. We assessed this by examining the organization's website, Wikipedia page, social networks, and associated press coverage.

Animal taxa

We chose to focus our study on animals because they were the most prominent taxa and the easiest to identify to the species level (compared to plants). We identified a global sample of 188 distinct taxa, of which 14 are domesticated (*Bos taurus, Bovidae* spp*., Camelus* spp*., C. dromedarius, Canis familiaris, Capra hircus, Cyprinus rubrofuscus, Equus asinus, E. ferus, Felis catus, Gallus gallus, Ovis aries, Serinus canaria, Sus domesticus*). We excluded domesticated taxa and the 106 sport organizations associated with them from analyses. We identified taxa to the highest possible taxonomic resolution using a conservative approach: when we could not identify a clear match between a logo and a specific animal, we only retained the broader taxonomic group, e.g., family, order, or class. We obtained information at

the species level for 86 species out of a global sample of 161 taxa (including, e.g., butterflies, felids, insects, etc.).

Conservation status and spatial congruence

To investigate wildlife conservation status, population trend, and spatial congruence for each species, we focused on those wildlife taxa that could be identified to the species level (n = 86, and for which we could find relevant data in the IUCN Red List of Threatened Species database (iucnredlist.org; n = 84). Spatial congruence reflects whether the species is present in the country of the focal sport organization. For each species, we extracted information on conservation status, global population trend, and the countries where it occurs from the IUCN database.

Statistical analyses

We did all statistical analyses in R (version 4.4.2) (R Core Team 2024), and all code and data are available online (Bradshaw 2025). To evaluate which factors affected the number of *wildlife teams* within each professional league, we applied generalized linear mixed-effects models and model comparisons based on Akaike's information criterion. The set of candidate models included the number of wildlife-related teams as the response variable, different combinations of the total number of teams within the league, gender, sport, and interactions between these factors as independent variables, and the region as a random factor (*lmer* function in the lme4 package) (Bates et al. 2013) (Table S3).

We investigated wildlife representation in sport organizations across taxa by examining taxonomic diversity among countries, genders, and sports. We defined taxonomic diversity as taxonomic richness (absolute number of distinct wild taxa per country or per sport), and as relative diversity (absolute number of distinct taxa divided by the number of wildlife sport organizations in the respective country, sport, or gender).

To assess the differences in wildlife representation, conservation status, population trends, and local relevance of species, we focused our analyses on wildlife taxa that could be identified to the species level (n = 84) (see Box 2 in main text). In addition to the randomized χ^2-squared tests and exact binomial tests (see Box 2), we tested the probability of a local species (i.e., occurring in the country) being selected as an emblem of sport organizations across regions and animal classes using generalized linear mixed-effects models (*glmer* function in the lme4 package), with presence in the country as the binomial response, the animal class (mammal, bird, or other) as the independent variable, and the region as a random variable.

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Table S1. List of wild animal taxa found in 727 collective sports organizations worldwide. The taxonomy is ordered from the broadest (i.e., class) to finest (i.e., subspecies) level. Asterisks indicate the wildlife taxa that we could not identify beyond this taxonomic level; in brackets, we indicate how many times we found such taxa in a team's logo, franchise name or supporter's nickname.

Taxonomic level	*name*	*frequency*
Class	Actinopterygii*	20 (5*)
	Amphibia	2
	Arachnida	6
	Aves*	205 (7*)
	Cephalopoda	2
	Chondrichthyes	20
	Insecta*	29 (1*)
	Malacostraca	4
	Mammalia	440
	Reptilia	17
Superorder	Batoidea*	1*
	Decapodiformes*	2*
	Galeomorphii*	17*
Order	Accipitriformes	112
	Acipenseriformes	1
	Anguilliformes*	2*
	Anseriformes	8
	Anura*	2*
	Apterygiformes	1
	Araneae*	2 (1*)
	Artiodactyla	59
	Carnivora	329
	Cathartiformes	2
	Cetacea	3
	Characiformes	1
	Charadriiformes	7
	Chiroptera*	3*
	Ciconiiformes	4
	Coleoptera*	2 (1*)
	Columbiformes	3

Crocodylia	5
Cuculiformes	1
Cypriniformes	1
Decapoda	4
Diprotodontia	4
Diptera	1
Falconiformes	9
Gadiformes	1
Galliformes	4
Gaviiformes	1
Gruiformes	2
Hymenoptera	21
Istiophoriformes	4
Lagomorpha	8
Lamniformes	2
Lepidoptera	1
Monotremata	1
Odonata	1
Orthoptera	2
Passeriformes	22
Pelecaniformes	3
Perissodactyla	9
Phoenicopteriformes	1
Pholidota	1
Primates	2
Proboscidea	14
Procellariiformes	2
Psittaciformes*	4 (3*)
Rhynchocephalia	1
Rodentia	7
Scombriformes	2
Scorpiones*	4*
Sphenisciformes	3
Squamata*	11 (1*)
Strigiformes	8

	Syngnathiformes	3
	Trogoniformes	1
Suborder	Apocrita*	7*
	Rhopalocera*	1*
	Serpentes*	2*
Infraorder	Anisoptera*	1*
	Brachyura*	4*
	Cetacea*	3*
Family	Accipitridae*	111 (99*)
	Acipenseridae*	1*
	Acrididae*	2*
	Alaudidae*	1*
	Alligatoridae	1
	Anatidae*	8 (3*)
	Apidae*	9 (8*)
	Apterygidae	1
	Ardeidae	2
	Balaenopteridae	1
	Bovidae*	18 (2*)
	Canidae	44
	Cardinalidae	3
	Cathartidae*	2 (1*)
	Cervidae	13
	Characidae	1
	Ciconiidae	4
	Coccinellidae*	1*
	Columbidae*	3*
	Corvidae	10
	Crocodylidae*	4 (3*)
	Cuculidae	1
	Culicidae*	1*
	Cyprinidae*	1*
	Delphinidae*	24 (18*)
	Diomedeidae*	2*
	Elapidae*	4 (3*)

Elephantidae	14
Equidae	5
Falconidae	9
Felidae*	254 (1*)
Formicidae	1
Gaviidae	1
Geomyidae*	2*
Gruidae*	2 (1*)
Hirundinidae*	2*
Hominidae	2
Hystricidae*	2*
Icteridae	2
Istiophoridae*	3*
Lamnidae	2
Laridae*	7*
Leporidae*	8*
Macropodidae*	2*
Manidae*	1*
Merlucciidae	1
Muridae	1
Muscicapidae	1
Mustelidae	3
Nectariniidae	1
Pandionidae	1
Passeridae*	1*
Pelecanidae	1
Phascolarctidae	2
Phasianidae	4
Phoenicopteridae	1
Psittacidae	1
Rhinocerotidae*	4 (1*)
Sciuridae	2
Scombridae	2
Spheniscidae	3
Sphenodontidae	1

	Strigidae*	8 (3*)
	Suidae	3
	Syngnathidae	3
	Tachyglossidae	1
	Theridiidae	1
	Trogonidae*	1*
	Ursidae*	28 (2*)
	Vespidae	4
	Viperidae*	4 (1*)
	Xiphiidae	1
	Zosteropidae	1
Subfamily	Ardeinae*	1*
	Caimaninae*	1*
	Crotalinae*	2*
	Scombrinae*	2*
Genus	*Apteryx**	1*
	*Bombus**	1*
	*Corvus**	1*
	*Cygnus**	1*
	*Falco**	7*
	*Gavia**	1*
	*Gazella**	2*
	*Geococcyx**	1*
	*Gorilla**	2*
	*Hippocampus**	3*
	*Lycalopex**	2*
	*Oryx**	1*
	*Oxyuranus**	1*
	*Panthera**	4*
	*Pavo**	4*
	*Pica**	2*
	*Rattus**	1*
	*Tursiops**	1*
	*Vespa**	4*
Species	*Accipiter melanoleucus*	1

Acinonyx jubatus	3
Aethopyga siparaja	1
Agelaius xanthomus	1
Alces alces	1
Aptenodytes forsteri	2
Aquila chrysaetos	2
Aquila heliaca	2
Ardea herodias	1
Balaenoptera musculus	1
Bison bison	4
Bison bonasus	4
Bos gaurus	1
Bubo bubo	2
Canis latrans	2
Canis lupus	30
Caracara plancus	1
Carcharodon carcharias	2
Cardinalis cardinalis	3
Cervus canadensis	1
Cervus elaphus	6
Cervus hanglu	1
Cervus nippon	2
Ciconia ciconia	4
Corvus corax	5
Crocodylus palustris	1
Crotalus atrox	1
Cyanocitta cristata	1
Cyanoliseus patagonus	1
Cygnus atratus	2
Cygnus olor	2
Dama dama	1
Diceros bicornis	2
Elephas maximus	7
Equus quagga	5
Erithacus rubecula	1

Eudyptes chrysolophus	1
Falco peregrinus	1
Felis silvestris	1
Glaucidium nana	2
Grus japonensis	1
Haliaeetus leucocephalus	6
Haliaeetus vocifer	1
Icterus galbula	1
Ketupa blakistoni	1
Latrodectus hasselti	1
Leopardus pardalis	2
Loxodonta africana	7
Lycalopex culpaeus	1
Lynx canadensis	1
Lynx lynx	7
Martes zibellina	1
Mellivora capensis	1
Merluccius merluccius	1
Mustela erminea	1
Myrmecia pilosula	1
Odocoileus virginianus	1
Orcinus orca	3
Ovis canadensis	4
Pandion haliaetus	1
Panthera leo	146
Panthera onca	5
Panthera pardus	23
Panthera tigris	49
Panthera uncia	2
Pelecanus occidentalis	1
Phascolarctos cinereus	2
Phoenicopterus roseus	1
Pica pica	1
Puma concolor	10
Rhinoceros unicornis	1

Salminus brasiliensis	1
Sciurus lis	1
Sciurus vulgaris	1
Sousa chinensis	1
Sphenodon punctatus	1
Sus scrofa	3
Tachyglossus aculeatus	1
Tursiops aduncus	1
Ursus arctos	21
Ursus maritimus	5
Ursus thibetanus	1
Vulpes vulpes	9
Vultur gryphus	1
Xiphias gladius	1
Zosterops japonicus	1

Table S2. Model comparison results examining four combinations of taxonomic richness in sport team emblems (taxonomic richness and local species richness) and country-specific richness (total animal richness or endemic animal richness; Table 6a and 8a of the IUCN summary statistics, respectively; www.iucnredlist.org/resources/summary-statistics). k = number of model parameters; LL = log-likelihood; AIC_c = Akaike's information criterion corrected for small samples, ΔAIC_c = difference between model AIC_c and model with lowest AIC_c; AIC_c weight; R^2_{adj} = adjusted R^2 (goodness of fit).

model	k	LL	AIC_c	ΔAIC_c	$wAIC_c$	R^2_{adj}
response = taxonomic richness in emblems; richness = total animal richness						
teams	2	-16.768	40.151	0	0.568	0.866
teams+richness	3	-15.825	40.702	0.550	0.432	0.869
richness	2	-57.668	121.951	81.800	< 0.001	0.102
intercept only	1	-60.508	125.317	85.166	< 0.001	-
response = taxonomic richness in emblems; richness = endemic animal richness						
teams	2	-6.420	19.764	0	0.764	0.907
teams+richness	3	-6.256	22.112	2.348	0.236	0.904
richness	2	-42.495	91.912	72.148	< 0.001	~ 0
intercept only	1	-42.518	89.481	69.717	< 0.001	-
response = local species richness in emblems; richness = total animal richness						
teams	2	-38.848	84.471	0	0.719	0.428
teams+richness	3	-38.510	86.353	1.883	0.281	0.422
richness	2	-47.887	102.548	18.077	< 0.001	0.042
intercept only	1	-49.156	102.686	18.215	< 0.001	-
response = local species richness in emblems; richness = endemic animal richness						
teams	2	-32.749	72.420	0	0.786	0.457
teams+richness	3	-32.711	75.021	2.601	0.214	0.439
richness	2	-42.439	91.801	19.381	< 0.001	~ 0
intercept only	1	-42.442	89.329	16.909	< 0.001	-

Table S3. Model comparison for the analysis of the factors influencing the number of *wildlife teams* in a professional sport league. Models are generalized linear mixed effects model with the number of *wildlife teams* (n_{wild}) as the dependent variable, and different combinations of three independent variables (fixed effects) and their interactions (denoted by ×) — total number of teams in the respective league (N_{tot}), sport, and gender. All models include the random effect of *region*, to account for regional non-independence. k = number of estimated parameters; LL = log-likelihood; AIC_c = Akaike's information criterion corrected for small sample size, ΔAIC_c = difference in AIC_c between the top-ranked and specific model; $wAIC_c$ = AIC_c weights; R_m^2 = (marginal) variance explained by the fixed effects; R_c^2 = (conditional) variance explained by the combination of fixed effects and the *region* random effect.

model	k	LL	AIC_c	ΔAIC_c	$wAIC_c$	R_m^2	R_c^2
~ N_{tot} + sport	13	-489.06	1004.68	-	0.6070	45.0	46.8
~ N_{tot} + gender + sport	14	-488.81	1005.83	1.152	0.3412	45.1	47.2
~ N_{tot} + gender + sport + gender×sport	21	-476.41	1011.00	6.319	0.0258	46.2	48.3
~ N_{tot} + gender + sport + gender×N_{tot} + gender×sport	22	-477.50	1012.24	7.560	0.0139	46.3	48.3
~ N_{tot} + gender	5	-506.23	1014.30	9.623	0.0049	39.4	39.4
~ N_{tot} + gender + gender×N_{tot}	6	-507.13	1014.72	10.035	0.0040	39.7	39.7
~ N_{tot}	4	-507.42	1015.13	10.447	0.0033	38.8	38.8
intercept-only	3	-560.96	1126.36	121.681	< 0.01	-	0.5

Table S4. Mixed-effects model results for the analysis of the factors influencing the presence or absence of wildlife in the country of each sport organization. Both models include *region* as a random effect. Class is a categorical factor with three levels: *mammals*, *aves*, and *other* classes. The difference among classes was driven mainly by a lower probability of local *mammals* being represented within a country (probability = 0.36–0.57) compared to *aves* (0.69–0.83) or *other* classes (0.66–0.81). k = number of estimated parameters; LL = log-likelihood; AIC_c = Akaike's information criterion corrected for small sample size, ΔAIC_c = difference in AIC_c between the top-ranked and specific model; $wAIC_c$ = AIC_c weights; R_m^2 = (marginal) variance explained by the fixed effects; R_c^2 = (conditional) variance explained by the combination of fixed effects and the *region* random effect.

model	k	LL	AIC_c	ΔAIC_c	$wAIC_c$	R_m^2	R_c^2
~ class	4	-291.60	591.21	-	0.9998	6.1	10.2
intercept-only	2	-302.16	608.32	17.11	0.0002	-	3.4

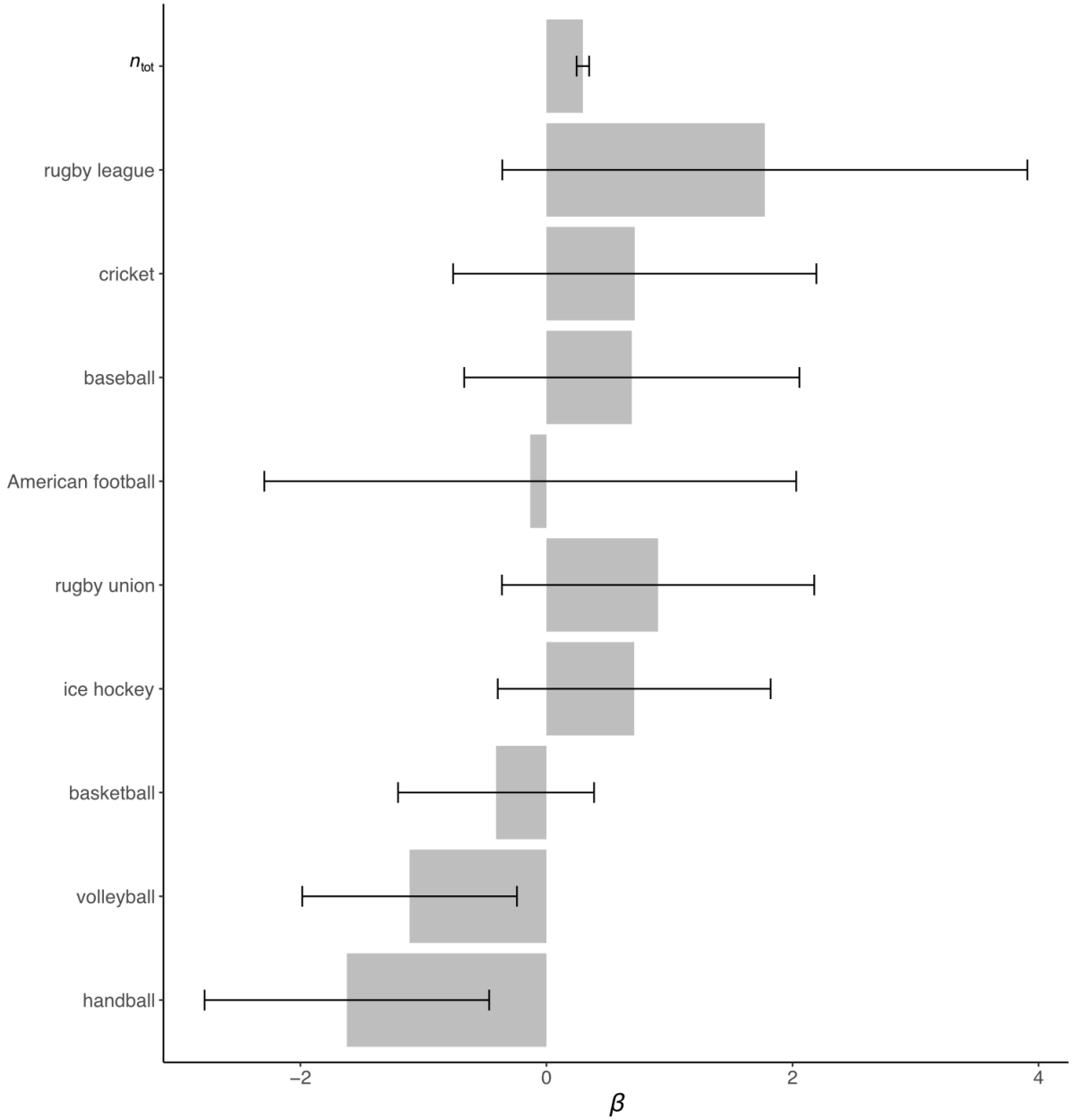

Figure S1. Main effects explaining the variance in the number of wildlife teams with n_{tot} = number of teams in the professional league and *sport* as the fixed effects (top-ranked model — Table S3), with *football* as the reference level. β = coefficient estimated in the mixed-effects model.

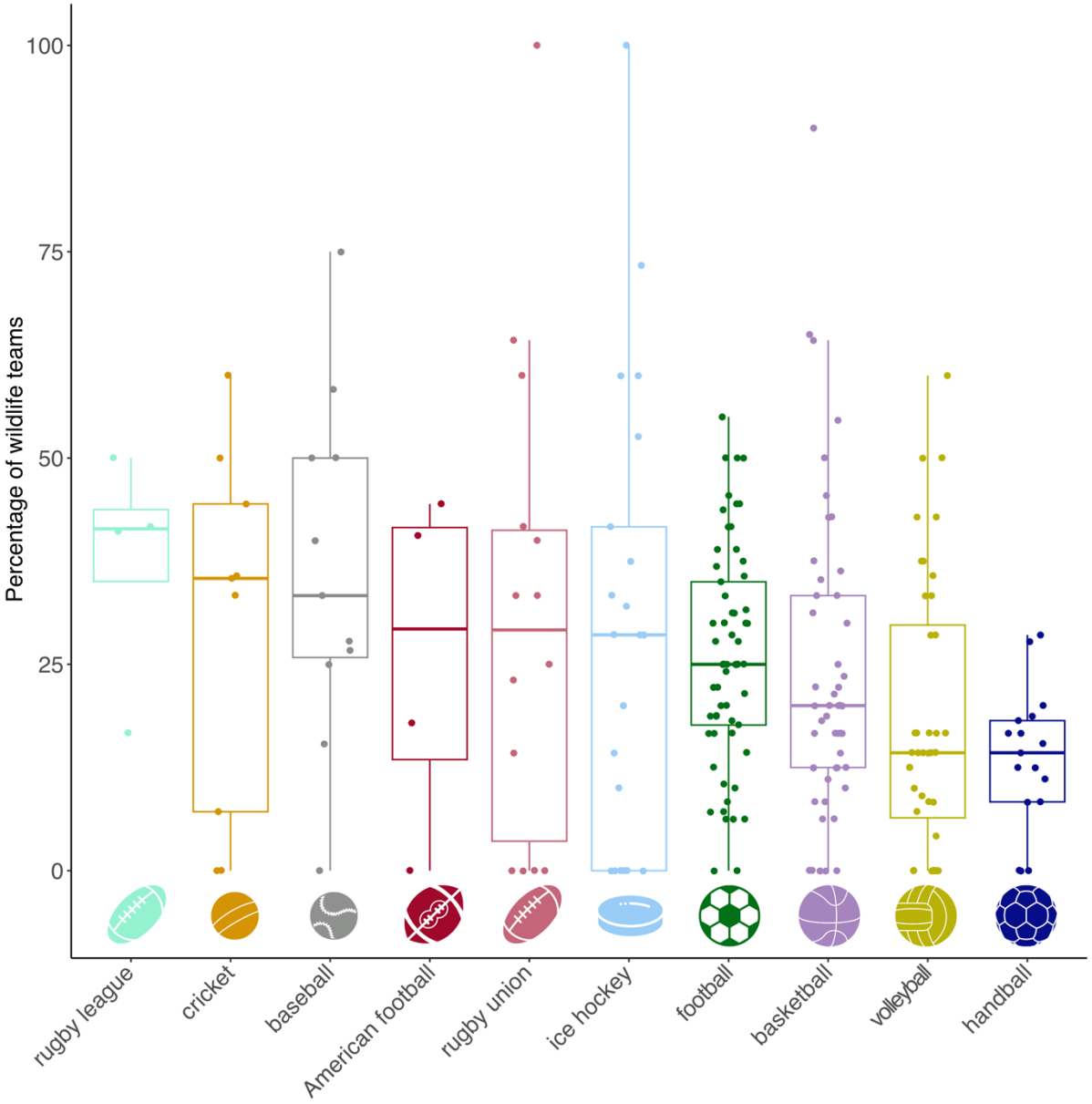

Figure S2. Variation in the percentage of wildlife teams (i.e., teams using wildlife iconography in their name or logo, or fans' nickname) in each league of the respective team sport. Each point represents a specific professional league.

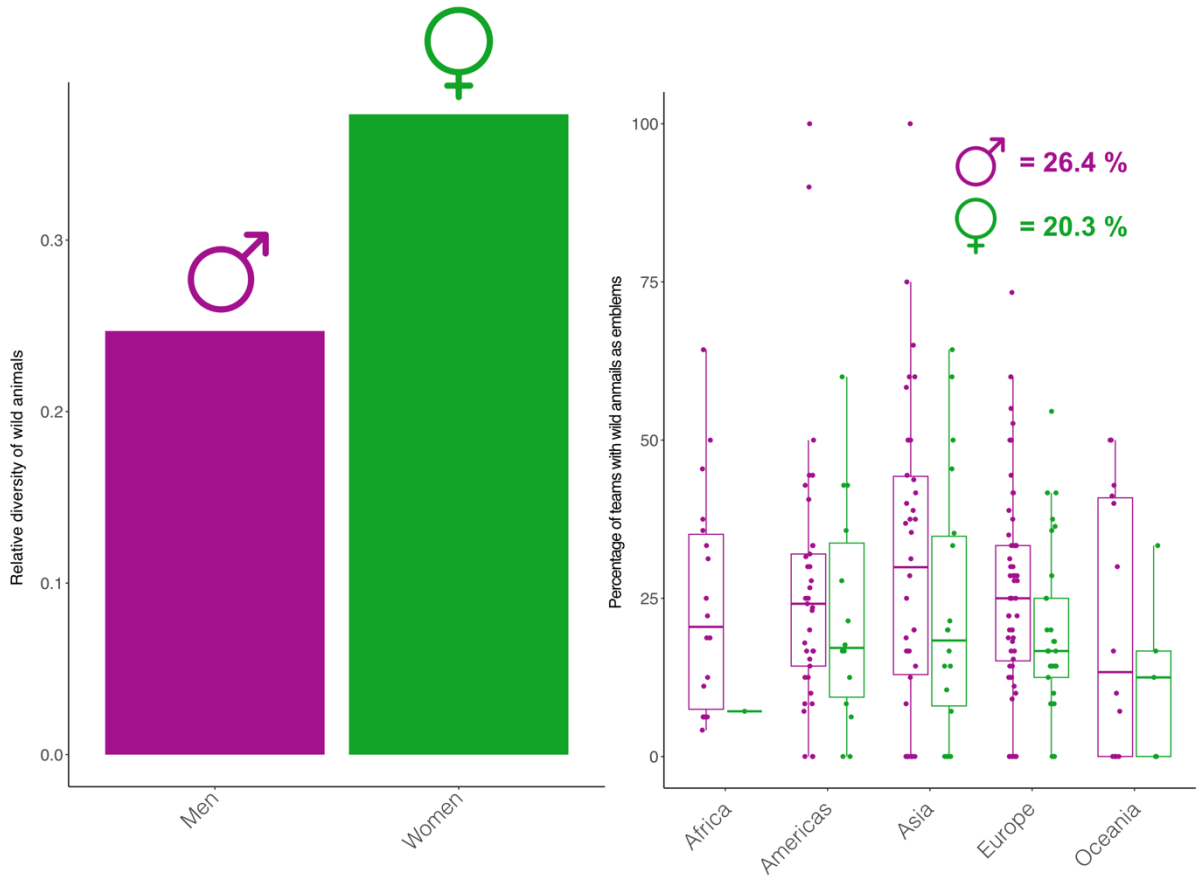

Figure S3. Differences in wildlife diversity across women's and men's sport organizations. The relative diversity of wild taxa was higher in women's than in men's organizations (left panel) despite a lower percentage of teams using wildlife iconography in women's than in men's sport organizations (left panel).

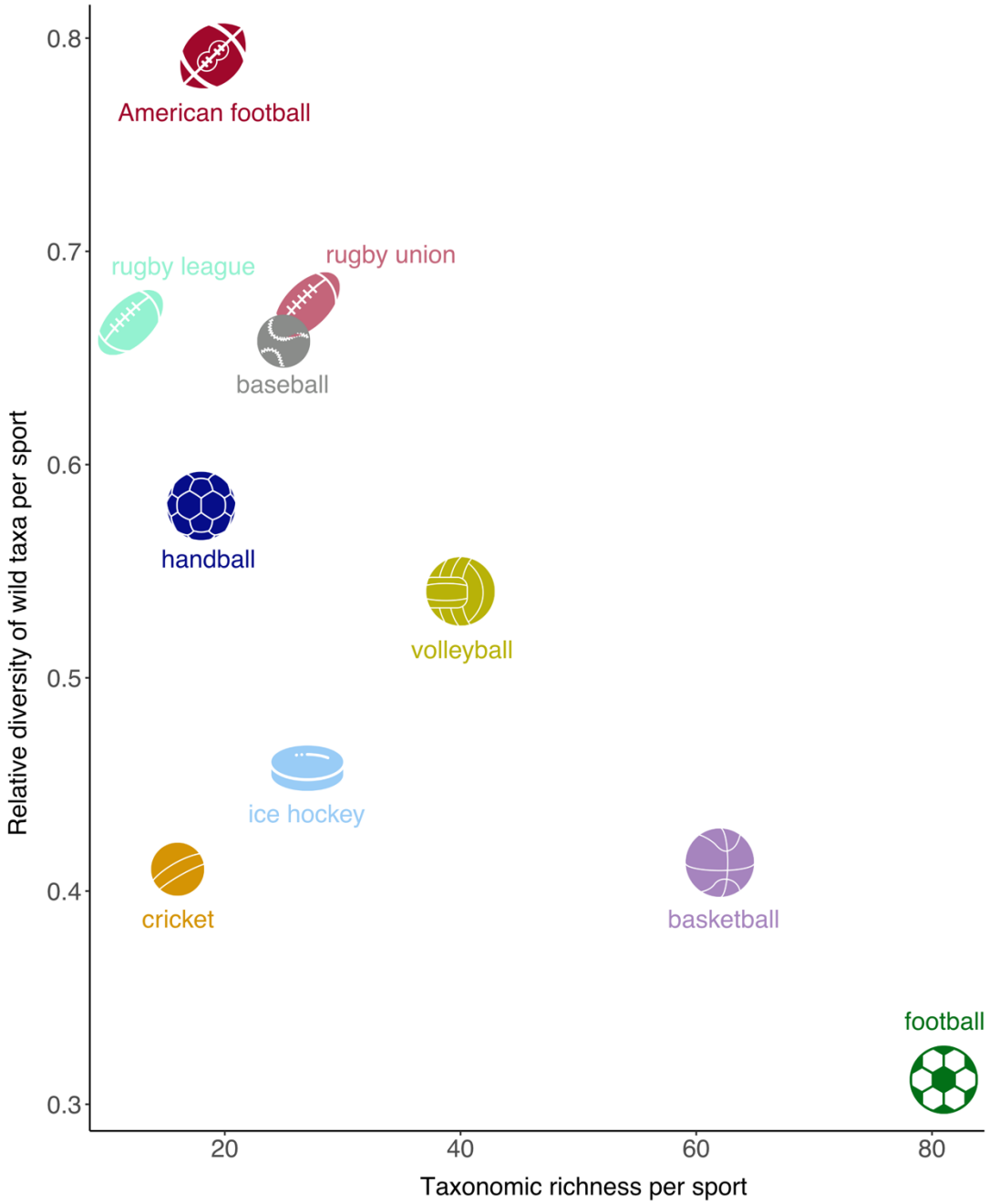

Figure S4. Taxonomic richness and relative diversity of wild taxa across ten team sports.