EDICIÓN ESPECIAL: ETNO-ORNITOLOGÍA

THE ETHNO–ORNITHOLOGY WORLD ARCHIVE (EWA): AN OPEN SCIENCE ARCHIVE FOR BIOCULTURAL CONSERVATION

The Ethno–ornithology World Archive (EWA): una base de datos abierta para la conservación biocultural

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RESUMEN.– El proyecto Archivo Mundial de Etno-ornitología (The Ethno–ornithology World Archive, EWA) busca involucrar, a nivel mundial, a diversos miembros de pueblos indígenas y comunidades locales, sectores público y privado, líderes comunitarios y ornitólogos. Esta integración se dará a través de una base de datos digital para la documentación, investigación, difusión y aplicación de la etno–ornitología. Actualmente, la base de datos EWA se encuentra en sus primeras etapas de desarrollo. En este trabajo se describen tres de las áreas que consideramos claves para abrir el debate e involucrar a la comunidad ornitológica. Éstas son 1) prioridades de conservación; 2) consideraciones éticas para el registro del patrimonio intelectual y cultural; y 3) la investigación comparativa y de colaboración, incluyendo el desarrollo de herramientas para la enseñanza y el aprendizaje sobre aves en lenguajes locales. Planteamos que, a través de esta recopilación de conocimientos culturalmente relevantes sobre las aves, se pueden establecer asociaciones más sólidas entre los conservacionistas y la población local. De esta forma, además, exploramos las mejores prácticas para la construcción de relaciones respetuosas y recíprocas entre las comunidades e investigadores no–locales en entornos digitales. El potencial para la investigación etno–ornitológica comparativa, utilizando la base de datos EWA, es amplio y se considera un rico recurso para la enseñanza y el aprendizaje activo.

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The Ethno–ornithology World Archive (EWA; Fig. 1)[1] is a crowd–sourced, online archive for people around the world to share cultural knowledge about birds. The EWA project was conceived and developed at Oxford University with partner organizations BirdLife International and Lynx Publications/ *Handbook of the Birds of the World Alive* (HBW Alive); its first public iteration is currently in the testing phase. Starting with

[1] EWA's first public website is expected to launch in 2016. The archive will be available at www.ewa-archive.net; please visit the website for more information and updates or email us at zooewa@zoo.ox.ac.uk.

Figure 1. EWA's logo, depicting the archive's namesake bird, the *Hawai'ian 'Ewa'Ewa* (*Onychoprion fuscatus*), whose migrations link diverse peoples and cultures.

the principle that a biocultural and interdisciplinary approach is needed to achieve effective conservation of natural and cultural heritage, EWA has been designed as a platform for collaboration between interested individuals, local communities, conservation practitioners, anthropologists, linguists, and ornithologists, among others. The archive will include folk–names, stories, songs, poems, ecological knowledge (all in video, audio and/or text form), images, artwork, and other materials developed by users, who will be able to publish their items or collections to the general public or to a restricted community of their choosing. The data will be held in a form that can be searched, browsed and collated for research and teaching purposes using ornithological, cultural, linguistic and geographic criteria.

This essay explores prospects for how this open–science project may be used by the general public and by academics to contribute to: 1) bird conservation, both local and regional; 2) responsible handling of intellectual property and cultural heritage issues; 3) comparative and collaborative research; and 4) tools for teaching and learning ethnobiology in local languages. These are summarized in Table 1 and discussed in further detail below.

Integrating local cultural and biological conservation priorities

Birds are essential members of almost all ecological communities, contributing indispensable ecosystem services, such as pollination and seed dispersal, and regulation of insect and small mammal populations (Millennium Ecosystem Assessment 2005). These services are often harnessed directly by humans, such as in pest

Table 1. A summary of EWA's approach to key challenges in biocultural conservation.

	Problem	EWA addresses this by
Ecology, Culture, and Language	Low awareness of local ecological knowledge among conservation professionals	Acting as a platform to facilitate interdisciplinary knowledge exchange
	Much cultural knowledge of biodiversity is undocumented worldwide	Crowd-sourcing documentation and prioritising diverse and holistic sources (*e.g.* stories from personal, group or societal experience)
	Human–wildlife conflicts over space and/or resources	Informing conflict interventions by providing a public source for relevant cultural contexts and social histories (also, potentially, a platform for public discussion fora)
	A tendency for short-term, crisis-management thinking and funding	Making documentation resources available for the long term. Knowledge may be documented today that can inform solutions to problems of the future that we can't yet imagine
	Language hegemony is a means of prolonging intellectual colonialism	Facilitating diverse language documentation without intermediaries and allowing for access to be managed by speakers Keeping recordings (audio and video) in local languages accessible to the community of language origin. EWA can serve as a place to host online supporting material in original languages while publications continue in languages of the academy (English, French, German, etc.)
	Local languages are underrepresented in school curricula	Allowing for the grouping of local language resources as 'collections' that can serve as a basis for engaged lessons (*e.g.* students learn to interview each other, record and publish local bird knowledge in their home languages)
Providing tools to help shift research paradigms	Disconnects persist between researcher's output and communities of knowledge origin (*e.g.* local research partners may not have access to, or be able to edit, correct, comment on content before it is published)	Providing mechanisms for community participation in all phases of research—before, during, and at any time afterwards . Communities can correct misappropriations of cultural heritage or intellectual property in the public record (*e.g.* TK labels and licensing)
	Lack of accessible venues for publishing community-generated research questions, results, and discussion (*e.g.* academics publish in journals; EWA provides a venue for the general public)	Open-access to traditional knowledge along with privacy settings to handle protected knowledge Developing a print and e-publication series on ethno-ornithologies by and for local users (*e.g.* guidebooks and school pamphlets in local languages)
	Need for protection and conservation of local, folk, and indigenous knowledge	Allowing for this, with a focus on enabling decision-making about the parameters of cultural documentation to be made at the source by communities of knowledge-origin
	Western, reductionist approach still dominates in much theory and methodology	Providing a space for the expression of diverse alternative theoretical, ethical, and methodological perspectives

control (Ninan 2009). Bird conservation therefore helps to protect the complex ecosystems upon which all life depends. While solely biologically– and ecologically–informed conservation initiatives benefit bird populations world–wide, it has become increasingly apparent that an additional approach to conservation is needed, one that is richly informed by local knowledge, local people and local cultures (Bonta 2010). For example, an important consideration is that external conservation projects often have a limited lifespan, while human communities can persist in the same landscape for generations and reproduce their own teachings on sustainability. Additional considerations are the often superior ecological knowledge and observational detail locals can bring to any project, as well as the ethical and socio–political importance of cultivating eye–level relationships between locals, academics and conservationists.

Of all creatures, birds are especially significant in the affairs of people. The value of birds in providing food, medicine, companionship, clothing and ornaments is well known, as is the fact that bird behaviour and voice mark the seasons, indicate the location of resources, and warn of danger (Mynott 2009, Tidemann *et al.* 2010). The cultural significance of birds goes far beyond utility; while being indispensible to our economies and ecologies, birds figure richly in the cultural, spiritual, and linguistic heritage of most peoples (Clucas *et al.* 2015), for example, birds feature in the folklore of practically every human culture (Tidemann & Gosler 2010). Birds help to develop a sense of place, linking people with their individual and community heritage; they help to develop a sense of the proper and fruitful relationship between humans and nature, and often, a sense of the numinous (Aillapan & Rozzi 2004, Chachugi *et al.* 2014). Mythologies may interpret a specific bird's presence or call as a harbinger of good or evil. Folk–names of birds reveal intimate knowledge of avian biology such as appearance, voice, movement, behaviour, breeding, and migration (Desfayes 1998, de Farias & Chaves 2007, Tidemann *et al.* 2010, Tidemann & Whiteside 2010). Knowledge relating to individual folk–taxa may be highly localised, or may be widespread; nevertheless, however birds are perceived, what often emerges from these diverse modes of engagement with birds is a concern for their welfare.

Of course, while there are many harmonious aspects to the relationships between birds and people, there are also significant frictions, conflicts and controversies, often rooted in diverse cultural norms, practices, and competition for resources with groups such as granivores and raptors (Licariao *et al.* 2013, Hiron *et al.* 2014, Washburn 2014). Rather than ignore or avoid such uncomfortable frictions, EWA will provide a space online for individuals and communities to express and exchange views about bird conservation priorities and conflicts, and to inform new research, conservation and planning.

Shifting the research paradigm for intellectual and biocultural heritage

EWA will harness contemporary information sharing and social media to support innovative shifts in current research and publishing practices in the natural and social sciences. For example, anthropologists and ethnobiologists have long grappled with issues of epistemological multiplicity, intellectual property and participatory responsibility, but have struggled to find mechanisms enabling full collaborative participation with the communities of knowledge–origin as well as providing them with equal access to research results (Nabhan *et al.* 2011, Posey & Plenderleith 2004). Following the International Society of Ethnobiology's Code of Ethics, EWA acknowledges that "biological and cultural harms have resulted from research undertaken without the consent of [local and] Indigenous peoples" (ISE 2006). We also encourage researching "collaboratively, in ways that support community–driven development of [local and] Indigenous peoples' cultures and languages, acknowledge [local and] Indigenous cultural and intellectual property rights, [and] protect the inextricable linkages between cultural, linguistic and biological diversity" (ISE 2006).

EWA is designed to help support a transformation in how research with communities is done. For example, contributors to the archive will be able to control access to and sharing of their contributions, *i.e.* by making them private, by sharing them with trusted community members, or by allowing open access (following the example set by the Endangered Languages Archive, http://elar.soas.ac.uk/; also see Nathan 2010). Drawing on the work of those developing the Creative Commons framework and the innovative Traditional Knowledge (TK) Licenses and Labels (see LocalContexts.org), EWA also prioritizes the licensing of cultural materials so that knowledge owners can indicate whether and how material may be used or adapted elsewhere. Contributors of material which they do not actually own may also add a formulated label "to help non–community users of traditional knowledge understand the importance and significance of this material, even when it is in the public domain and appears as though it can be shared and used by everyone. This is often not the case for traditional knowledge, and the Labels are designed to identify and clarify which material has community–specific, gendered and high–level restrictions. This is especially with respect to important sacred and/or ceremonial material. […The Labels] can be used to include information that might be considered 'missing', for instance the name of community from where

it derives, what conditions of use are deemed appropriate, how to contact the relevant family, clan or community to arrange appropriate permissions (http://www.localcontexts.org/#labels, accessed 25 February 2015)."

In this way EWA hopes to facilitate the curation and control of ethno–ornithological materials by members of the community of origin. By integrating a focus on narrative and stories that relate to people's particular knowledge of birds, their habitats, and their relations with humans past and present, EWA engages a holistic 'slice of life' collection strategy that transcends disciplinary lines and allows for diverse modes of expression, presentation and communication on the part of the contributor. For example, a knowledgeable elder might upload a video of herself explaining why it is important, in her own terms, to follow certain procedures when harvesting wild bird eggs in her region. Making this information publicly available raises the potential for respectful dialogue with those such as park rangers or conservation agents who may have been trained to believe that harvesting by local people is harmful.

At a more general level, the fields of ornithology, conservation and anthropology are long overdue for the shift towards full acknowledgement and engagement with the intellectual contributions of non–Western traditions. Ermine's (2007) concept of 'ethical space' helps us to imagine how radically different modes of expertise might be invited to inhabit parallel epistemological spaces, and to welcome any discomfort this may cause. Ideally this recognition and imagination can extend to policy makers and the general public. Archives such as EWA can help achieve broad respect for diverse ways of knowing by demonstrating the depth and scope of indigenous and local observation and theory.

Indeed, most ornithologists, anthropologists, and other researchers who have been taught by local peoples have amassed a great deal of data that have never made it into the public record. EWA will provide an online space for such materials to be published, to be made accessible to their communities of origin (and where possible to return to those communities control over representation of and access to the materials). In this way, EWA is part of a growing trend towards a more open and participatory science in which all people can share and have access to information, not just a privileged few. For example, detailed documentation of landscape and ecological knowledge may assist those asserting rights to land and resources, and support stewardship practices and increased collaboration between stakeholders (Turpin *et al.* 2013).

Finally, and integral to the success of EWA, is the issue of trust. As EWA's collections grow, we will continually monitor whether EWA is meeting the needs of its users—foremost among whom are the communities of knowledge–origin. By putting knowledge holders in control of managing their own materials, and providing tools for communication and networking, we leave open opportunities for unexpected and innovative relationships to emerge.

Collaborating, comparing, teaching and learning about birds in local languages

George Steiner's often–quoted sentiment, "When a language dies, a possible world dies with it" (1998: xiv) is also appropriate to the world of birds. Language is a portal to a rich understanding of people's knowledge of current and past environments. As the means through which contributed narratives are relayed and a global community participates, engagement with the diversity of the world's languages is critical to the realization of genuine collaborative engagement and robust biocultural conservation (Maffi 2001). World–wide, the conservation community conducts its affairs in a small number of languages, often in English and other colonial tongues. We hope to find ways of normalising a much more multilingual approach. Indeed, conservation work at any particular place should take critical account of language as the prime vehicle of understanding, and not assume that a colonial language allows for nuances associated with local practice to be understood. It is also fundamental to recognise the value of indigenous and local naming practices. Though its design is ongoing, we have prioritized features in EWA so as to reach individuals and communities from all over the world, instill a sense of ownership and belonging, and make materials accessible to diverse technological capabilities. As the means are located, we hope to add multi–language access to content as well as translations in diverse languages.

When populated with observations, stories and other data, EWA will be a key resource for comparative ethnobiology and cross–cultural linguistic research (*e.g.* Berlin 1992, Desfayes 1998). It can also serve as a collaborative working platform for research projects, for example by supporting broad community pre–viewing of data before publication and decision making about contributions and who can access them.

As EWA develops, a key focus will be on facilitating ways for children to use and contribute to the archive, either individually or as part of school projects, assignments, or home–schooling research (Wyndham 2014). Students can learn about birds and other life forms as well as engage with and celebrate diverse knowledge traditions. They might, for example, collect accounts from their grandparents about how bird numbers and species have changed over their lifetime; record myths or family stories about bird–human relationships; document folk names, di-

alect traditions and ecological relationships between birds and other life and landscape (Louv 2005). School–groups (and communities in general) can elect to use EWA as a private or access–managed space if they want to keep their collections viewable within a defined community. Teachers around the world will be able to access and share lesson plans that will use EWA's collections or create and contribute new teaching material at various levels.

CONCLUSION

Central to EWA's mission is to honor the importance of people's everyday experiences, interactions with and knowledge of birds to the long–term success of conservation efforts, cultural and linguistic continuity and the persistence of a bioculturally–rich world. We hope EWA will be used to strengthen grass–root networks of conservationists and local people working together to engage in bird conservation in culturally relevant ways (Bonta 2008, Thomas 2010). EWA embraces the citizen science research process in which a broad constituency can participate, which is simultaneously educational and engaging, and which enables those involved to feel invested, responsible and empowered. This is linked too to an open science, in which specialist methods and production of knowledge are accessible to everyone.

Many conservation initiatives falter, risk failure or fail due to lack of engagement with local people in culturally resonant terms. Less tangible in economic terms, traditional and local ecological knowledge is often undervalued, marginalised, or lost totally in the conservation discourse. However, through their accrued understanding of nature over long periods, local people have knowledge, cultures and cosmologies that are often more sympathetic to avian conservation than the exigencies of 'developed' economies. Additionally many conservation interventions last no more than 3–5 years, making long–term, interdisciplinary, multi–faceted action on the ground difficult to sustain. For effective conservation of biocultural diversity, we need to recognise, understand, and affirm local knowledge, and for a variety of reasons birds, and therefore ethno–ornithology, are crucial for this enterprise.

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