Biodiversity monitoring of marine habitats often targets areas of high species richness or of specific conservation concern. Both of these criteria apply to the coast of Mauritania due to the productive Canary Current upwelling system and growing maritime transport, along with the increasing use of the Mauritanian continental shelf by artisanal and industrial fisheries as well as oil and gas exploration and exploitation. In 2012, concerns for the risks of significant human impact on marine biodiversity led to the establishment of the Programme “Biodiversité, Gaz, Pétrole” (BGP; www.programmebgp.mr), spearheaded by the Mauritanian Ministry of Environment in close cooperation with the Ministry of Fisheries and the Ministry of Oil.

With the objective of establishing environmental baselines for several ecological and environmental parameters, field missions were a core activity of the programme. For the monitoring of large marine vertebrates, surveys of strandings were implemented every three months, focusing on the identification of species, quantification of individuals and diagnosis of possible causes of death (Mullié et al. 2013, DOI: 10.13140/RG.2.1.3988.9361).

During one such mission in November 2013, a field research team led by W. Mullié found a 4 m long, juvenile baleen whale stranded south of Chott Boul near Diawling National Park. The whale could not be collected, and its identity could not be determined in the field, partly due to advanced decomposition. Some of the rorquals, and especially their juveniles, including Bryde’s (Balaenoptera brydei), Eden’s (B. edeni) and Omura’s whales (B. omurai), are difficult to distinguish morphologically, considering that their taxonomy remains unresolved and both intraspecific and interspecific variations are poorly described. Indeed, the complex phylogeny of cetaceans leads to new or formerly unrecognized species still regularly being described or resurrected.

With limited morphological evidence, DNA analyses can significantly boost the number of positively identified stranded cetaceans (Alfonsi et al. 2013, DOI: 10.3897/zookeys.365.5873); therefore, skin samples were sent for DNA barcoding. Despite poor sample quality due to decomposition, the sequencing of COI, cytb and the mitochondrial control region, for a total of 2,656 bp, revealed unambiguously that the specimen was an Omura’s whale.
As the Omura’s whale had never before been recognized in the Atlantic Ocean despite centuries of cetacean research and commercial whaling, this added a new species to an already rich catalog of Mauritanian cetaceans. While the range of the Omura’s whale was previously thought to be restricted to the tropical and subtropical Western Pacific and Indian Oceans, a population was described off northwestern Madagascar in 2015, some 11,000 km away from Mauritania (Cerchio et al. 2015, DOI: 10.1098/rsos.150301). The stranded individual could theoretically have migrated to Mauritania from Madagascar but this is unlikely for a juvenile. Instead, it might belong to a hypothetical Eastern Atlantic population.

This discovery is a typical example of the benefits of systematic large-scale monitoring of biodiversity within strongly exploited ecosystems. Marine mammals are often considered relevant sentinels of the overall health of the world’s oceans. Periodical field monitoring of the Mauritanian coast on a long-term basis, applying both morphology and DNA-based identifications of large marine vertebrates, should allow detection of any natural or anthropogenically-generated variations in species diversity and their relative composition, reflecting significant environmental changes. The Omura’s whale might well become a flagship species for the conservation of Mauritania’s marine wildlife in this ecologically and economically important region.

For more information about this research, see DOI: 10.1080/17451000.2015.1084424
Diversity Patterns in Neotropical Collembola: Investigating the Significance of Elevational Gradients

Applications
Estimating Coextinction Rates through DNA Barcoding

News
Updates from Symposia Held Around the World
The Slovak National Museum-Natural History Museum obtained financial support of 1.7 M € from the EU European Regional Development Fund for building a DNA lab and other infrastructure to barcode the flora and fauna of Slovakia in 2016 – 2023. With the added capacity, the museum plans to barcode 1000 species in the coming years.

The German Barcode of Life Network (GBOL) was awarded a further 6.3 M € by the German Federal Ministry of Education and Research to extend the German barcode reference library to contain all common and frequent species, as well as important agricultural pests, invasive, health-relevant, Red List, FFH (Flora Fauna Habitat Directive), indicator and specific application-relevant species, and to develop DNA barcoding applications.

Through support from CONICET and other institutions, both national and international (including la Fundación Williams), the iBOL Argentina Fund has opened a call for research proposals with the aim of promoting the preservation of specimens of the country and region for DNA barcoding. The iBOL Argentina Fund is accepting proposals until January 31, 2016 and will finance up to 30 projects at a maximum of 50,000 pesos each. Researchers with accepted proposals are expected to participate in the special training workshop Leading Labs Training Workshop for DNA Barcoding, which will take place at the Museo Argentino de Ciencias Naturales Bernardino Rivadavia in 2016.