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COMMENTARY

Conservation of "new" species within and beyond protected areas

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In the era of biodiversity and ecosystems collapse (IPBES, 2019), the description of species new to science is often an event to celebrate as a sign of enduring life. On the other hand, conservationists may immediately worry about the condition of the newly described species, intuitively expecting such species to be rare and range restricted, and possibly to occur in already severely altered habitats. Simkins *et al*. (2020) quantitatively assessed this intuition based on a recent global taxonomic review that led to an increase of 10.7% in the number of known bird species. They found that species completely new to science (without taxonomic antecedents) were significantly more threatened than any other group in the new taxonomy (including splits and merges from previously known species or species unchanged by the revision). However, overall, the mean global extinction risk across species did not increase in the new taxonomy. The global coverage of species ranges by protected areas did not decrease either, although newly split species are generally poorly covered: for example, 45% of split species identified as globally threatened had less than 10% of their ranges covered by protected areas, and 11% had no coverage whatsoever (Simkins *et al*., 2020). The results of this study have interesting implications for conservation planning, but also highlight a limitation in our ability to adapt conservation actions to change.

For example, Simkins *et al*. (2020) show the greatest richness of globally threatened taxa newly elevated to species rank to occur in eastern Amazonia, Java and the Philippines. Intuitively, they suggest that protected area networks need to be expanded in these biodiversity hotspots. Obviously, protected areas are a fundamental conservation tool. In many cases, area protection has allowed populations to persist or increase, and land use change to slow down or halt compared to non-protected areas (e.g., Hermoso *et al*., 2018; Lehikoinen *et al*., 2019). That is why the expansion of protected areas is a key target set in conservation agendas worldwide. For example, the European Union has recently committed to expanding its network of protected areas by up to 30% of land and sea by 2030 (meaning increases in protection of 4% and 19%, respectively, of land and sea compared to 2020 levels; European Commission, 2020).

However, conservation by area protection also has limitations. The designation of new protected areas is complicated by social and economic issues, mostly because of competition with human activities. This often leads to opportunistic design (Baldi *et al*., 2017), meaning protected areas often fail to improve species conservation status in practice, a shortfall further compounded by chronic underfunding and poor management (Watson *et al*., 2014). Considering again the EU as an example, most terrestrial species and habitats that have been protected for 30 years within the extant network of protected areas remain in an unfavorable status (EEA, 2015). Moreover, area protection in non-western countries is increasingly under scrutiny as a "colonial" practice, often facilitating dispossession of indigenous people from their land, yielding poor results in terms of equity, sustainable development and ultimately conservation itself (Andrade & Rhodes, 2012; Laltaika & Askew, 2018). More generally, it is increasingly debated whether static protected areas with fixed boundaries are sufficient to respond to the challenge of global change (e.g., range shifts following climate change (Araújo *et al*., 2011; but see, for example, Lehikoinen *et al*., 2019)). In a way, taxonomic revisions are a form of change, if not in the true state of the system, at least in our knowledge of it; as Simkins *et al*. (2020) recognize, species lists are inherently unstable. Therefore, static area protection may be insufficient or inefficient as a blanket response to taxonomic changes as it is to environmental ones. As global changes in both species status and knowledge accelerate, conservation must find more dynamic and flexible ways to respond.

For example, in European countries most new taxonomic groups can be expected to come from splits (Simkins *et al*., 2020). If most such changes do not correspond to an increase in extinction risk, it may be preferable to maintain and strengthen the extant protected area network, and to strengthen conservation values for non-protected areas, for

example, by promoting connectivity in green infrastructures (Hermoso *et al*., 2019). This network could be upsized or modified in response to new biodiversity conservation needs, including further taxonomic revisions. The economic and social effort of declaring new protected areas can then be focused on the few key spots where revisions have most increased conservation needs.

Conversely, in areas of high biodiversity value such as the eastern Amazon (one of the hotpots of newly recognized globally threatened split species identified in Simkins *et al*., 2020), where species entirely new to science are more likely to arise, their protection might be best pursued by increasing the governance rights of local indigenous communities, halting their prosecution and addressing poverty, injustice, and marginality (Laltaika & Askew, 2018; IPBES, 2019). At least a quarter of the global managed land area, and ~35% of non-formally protected terrestrial areas, are traditionally owned, used, or occupied by indigenous peoples (IPBES, 2019). In these areas, ecosystems and ecological communities tend to be more intact and resilient and to decline less rapidly than elsewhere (IPBES, 2019). Recognizing the territorial rights of indigenous local communities and their role in managing natural resources is therefore likely to have greater pre-emptive value, and greater sustainability of conservation outcomes, than reacting to new information by declaring new protected areas. After all, species new to western science have typically long co-existed with local people, and often been known to them.

The urgency of halting biodiversity loss in the context of global change calls for alternative, dynamic conservation strategies. Studies like Simkins *et al*. (2020) are important to explicitly test intuitions (e.g., that taxonomic revisions should increase extinction risks), avoid dogma, and rationally translate new information into conservation planning and action.

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References

Andrade, G.S. & Rhodes, J.R. (2012). Protected areas and local communities: an inevitable partnership toward successful conservation strategies? *Ecol. Soc.* **17**(4), 14.

Araújo, M.B., Alagador, D., Cabeza, M., Nogués-Bravo, D. & Thuiller, W. (2011). Climate change threatens European conservation areas. *Ecol. Lett.* **14**(5), 484–492.

Baldi, G., Texeira, M., Martin, O.A., Grau, H.R. & Jobbágy, E.G. (2017). Opportunities drive the global distribution of protected areas. *PeerJ* **5**, e2989.

European Comission (2020) EU Biodiversity Strategy for 2030. Bringing Nature back to our lives. COM(2020) 380 final.

European Environmental Agency. State of nature in the EU (2015) Results from reporting under the nature directives 2007–2012. Publications Office of the European Union, Luxembourg.

Hermoso, V., Morán-Ordóñez, A. & Brotons, L. (2018). Assessing the role of Natura 2000 at maintaining dynamic landscapes in Europe over the last two decades: implications for conservation. *Landscape Ecol.* **33**(8), 1447–1460.

Hermoso, V., Morán-Ordóñez, A., Canessa, S. & Brotons, L. (2019). Four ideas to boost EU conservation policy as 2020 nears. *Environ. Res. Lett.* **14**(10), 101001.

IPBES (2019) *Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services*. E. S. Brondizio, J. Settele, S. Díaz, and H. T. Ngo (editors). IPBES secretariat, Bonn, Germany.

Laltaika, E.I. & Askew, K.M. (2018). Modes of dispossession of Indigenous Lands and Territories in Africa. Conference paper. United Nations Expert Group Meeting on Sustainable Development in Territories of Indigenous Peoples. https://www.un.org/development/desa/indigenouspeoples/wp-content/uploads/sites/19/2018/01/Laltaika-and-Askew_UN-paper_rev3.pdf

Lehikoinen, P., Santangeli, A., Jaatinen, K., Rajasärkkä, A. & Lehikoinen, A. (2019). Protected areas act as a buffer against detrimental effects of climate change—Evidence from large-scale, long-term abundance data. *Glob. Change Biol.* **25**(1), 304–313.

Simkins, A.T., Buchanan, G.M., Davies, R.G. & Donald, P.F. (2020). The implications for conservation of a major taxonomic revision of the world's birds. *Anim. Conserv.* **23**, 345–352.

Watson, J.E., Dudley, N., Segan, D.B. & Hockings, M. (2014). The performance and potential of protected areas. *Nature* **515**(7525), 67–73.